RATIONAL DECISION-MAKING

Israel's Security Choices, 1967

Janice Gross Stein and Raymond Tanter

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By Janice Gross Stein and Raymond Tanter

In challenging the orthodox interpretation of Israel's decision-making on issues of deterrence and defense during the turbulent days of 1967, the authors of this penetrating analysis are able to demonstrate conclusively that questionable logic informed both the process and the substance of choice during that perilous time. And the brilliant defensive success of the Israelis that ensued has, they find, tended to obscure what were quite major defects in the logical treatment accorded basic issues, many of which are of current as well as of historic interest in that they are again prominent on the international agenda of architects of new security arrangements in the troubled Middle East.

Because it provides an explanation of the decisions taken that involves an innovative treatment of the limits of rationality, this pioneering work will prove of intense interest, not only to analysts of Middle Eastern politics, but also to students of decision-making and strategic problems in general. By undertaking a systematic evaluation of decisions — a task that is often neglected — the authors expand the traditional concept of rational choice to encompass the logic of argument and the revision of opinion that occurs in a climate of uncertainty; and, through examination of the limits of rational decision-making, they reach the conclusion that if the conflict in the Middle East is to be, not simply managed, but effectively reduced, the constraining logic of deterrence that informs both policy and practice must be fully appreciated.

" Raises both the analysis of foreign policy decisionmaking and its critical evaluation to a new level of theoretical and methodological sophistication. The authors first provide the reader with an excellent synthesis and explication of available decision-making theories and then apply them to

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To Anne Romoff Gross
and to Shawn Gilbert Tanter

Decision making is the supreme manifestation of human dignity. Decision making is an expenditure of energy. This energy should be wisely spent.—B. de Jouvenel, *The Pure Theory of Politics* (Cambridge: Cambridge University Press, 1963), p. 93.

CONTENTS

List of Figures

List of Tables

Preface

This study challenges the orthodox interpretation of Israel's decision-making on issues of deterrence and defense in 1967 Generally regarded as a success, performance in 1967 was dramatized further by the allegedly defective processes of choice that preceded the October War in 1973. The defensive success in 1967, however, has obscured both the failure of deterrence and decision-making. A careful explanation and evaluation of decision-making in the weeks that preceded the preemptive attack in June of 1967 highlights the questionable logic which informed both the substance and the process of choice. On critical issues of deterrence and defense, the logic of argument was seriously flawed.

The issues of security that dominated discussion in 1967 are of interest not only to historians. Since the beginning of the painful but promising peace-making process in 1973, these same issues define the boundaries of an often passionate debate. Within Israel, where the cost of defense has been widely dispersed and personally felt, a citizen army encourages widespread participation in a heated discussion of the requirements of security. Not only do "armchair generals" argue about the merits of alternative strategies, but "armchair prime ministers" monitor the effectiveness of decision-making procedures. More than a decade later, many of the issues that confronted Israel's cabinet in 1967 are again prominent on the national and, indeed, international agenda. This dissection of the substance and process of decision-making is relevant not only to the archaeologists but also to the architects of new security arrangements in the Middle East. The consequences of choice are so important that the quality of the processes and the logic of the arguments are of significance.

A concern with process and argument stimulated this investigation of

Israel's decision-making in 1967 It is sometimes difficult to trace the intellectual history of a project but, in this case, the stimulus is painfully obvious. We were both visitors in the Department of International Relations at the Hebrew University in Jerusalem in the days immediately following the October War in 1973 and were party to the extensive examination of the causes and consequences of faulty argument and poor decision-making processes. In many long hours of discussion, our interest in the quality of choice as well as in the rationality of arguments and estimates acquired new meaning. In our intense debate, evaluation of decisions was rarely separated from their explanation. No evaluation of critical decisions could be made without an explanation of the processes which produced them, but an explanation which provided no basis for evaluating the quality of these choices, while theoretically interesting, was "academic" in all senses of the word. As in many other areas in the study of human conduct, too little attention has been paid to quality as a focus of explanation and as a criterion for evaluation. This link between explanation and evaluation is the principal theoretical and normative concern of this study

This emphasis on the explanation and evaluation of the substance and process of decision-making makes unavoidable a somewhat lengthy introduction to the issues that challenged Israel's policymakers in 1967 In Part One, Chapter 1 examines concepts of rationality that are used to evaluate choice and estimation and expands traditional concepts to include the logic of argument. Chapter 2 reviews contemporary explanations of decision-making while Chapter 3 transcends the theoretical debate by synthesizing complementary explanations to specify multiple paths to choice. Part One establishes the theoretical framework for the explanation and evaluation of Israel's decision-making which follows. It emphasizes the rationality of argument and process and synthesizes theoretical strands in the explanation of choice.

Part Two explains and evaluates argument, process, and choice in Israel during 1967 In Chapter 4, the logic of strategic argument which informed the choices of decisionmakers is reconstructed and evaluated. Since many of these same concepts of deterrence and defense are once again the subject of considerable controversy, discussion of their assumptions and implications should be of interest both to those who anxiously watch and to those who participate in the search for peace and security that have eluded the Middle East for more than a quarter of a century. Chapters 5 to 7 explain the critical decisions of May and June 1967 and evaluate the rationality of the arguments and processes leaders used. Surprising strength in the performance of important decisional tasks is marred by confusion and illogic in the application of basic concepts of national security. Chapters 8 and 9 draw on decision theory, sensitivity analysis, and

Bayesian inference to evaluate the rationality of opinion revision and choice. A distinctive feature of Part Two is the systematic evaluation of the logic of argument and the rationality of estimates and choice.

Part Three returns to the central theme of the rationality of choice, process, and argument and considers the implications of the research results for theory and policy. After collaboration in the development of concepts and methods, a collaboration frequently punctuated by lively exchanges, Janice Gross Stein wrote Chapters 1 through 7 and 10, and Raymond Tanter is the author of Chapters 8 and 9.

In both the explanation and evaluation of choice, we rely heavily on empirical evidence of decision-making processes in 1967 Our colleagues and students provided invaluable assistance in collecting and interpreting the data we needed. Particularly we wish to thank those in the Department of International Relations at the Hebrew University who read and criticized portions of the manuscript. Michael Brecher of McGill University, a frequent visitor to the department, suggested a collaborative enterprise and generously made available his invaluable collection of primary data on the decision process in 1967 He read and commented upon several early drafts of the manuscript, and his detailed knowledge of Israel's foreign policy-making was offered freely and exploited frequently. When he was visiting professor in the department, Thomas Schelling provided helpful suggestions for revisions of Chapter 8. Robert Jervis, who visited in the spring semester of 1977, read the first seven chapters carefully and offered detailed and helpful criticism. Alan Dowty, now at Notre Dame, Yair Evron of Tel Aviv University, and Dan Horowitz of Jerusalem spent many hours in discussion of Israel's strategic doctrine and practice. Benjamin Geist freely made available his extensive primary data on the 1967 decision process.

Graduate students in the department were an unending source of stimulation and information. We are especially grateful to Yaacov Wertzberger, Motti Raz, Marcy Agmon, Inez Pollack, and Varda Sheffer for their interest and constructive criticism. Lisa Kaufman, Judith Shribman, Sarah Vertzberger, and Hemda Ben Yehuda contributed valuable research assistance in scaling dimensions of value in Chapter 9. Offra Vineberg and Zahava and Ze'ev Maoz carefully checked references and bibliography for the whole manuscript. More generally, the on-going interest of students and colleagues deeply concerned with these problems was a source of encouragement to us.

We are also indebted to many of our colleagues in North America. A special note of thanks to Alexander George of Stanford University, who was so constructive in his criticism that he stimulated large-scale revision of the final manuscript. Blema Steinberg of McGill University and Gilbert Winham of Dalhousie University read early drafts of the first seven

chapters and provided extensive comments. Michael Stein of McMaster University read several drafts of Chapters 1 to 7 and 10 and corrected errors of substance and style. Susan Gross Solomon of the University of Toronto was extraordinarily helpful in the discussion of the philosophy of science and the logic of argument. She read Chapters 1 and 4 with painstaking care and demanded clarity in content and expression. Her insistence on rigor was always accompanied by constructive suggestion and warm encouragement and support.

Graduate students, both at McGill and at the University of Michigan, joined in the transnational and transcontinental debate and discussion. John De Marco, Grace Aldrovandi, and Ted Moss of McGill read the manuscript in its entirety and offered useful suggestions for revision, Ellis and Valerie Morris were exacting in their proofreading, and Edith Klein constructed the index with imagination and dispatch. Robert Olender of Michigan participated in the Bayesian revision of opinion in Chapter 9 David Wiechert provided valuable assistance in ranking dimensions of value and contributed significantly to the analysis of the impact of information, and Jeffrey Colman painstakingly checked all calculations.

Collaboration in this examination of Israel's decision-making was made possible not only through the help of individual scholars and students, but also through the generous support extended by those who sponsor research. We are particularly grateful to the Mershon Center at The Ohio State University who awarded the manuscript the Edgar S. Furniss Jr. Award and sponsored its publication. A special word of thanks to Richard Snyder and Charles Hermann of Mershon for their encouragement and to Anne Trupp of Mershon and Robert Demorest of the Ohio State University Press for their patience and perseverance in the editing and preparation of the manuscript for publication. They discovered and corrected inconsistencies in style and substance, and their high standards of professional competence contributed immeasurably to the readability of the volume.

In Israel, the Director of the Leonard Davis Institute for International Relations, Nissan Oren, generously made available research assistance which facilitated the collection of data. A special word of thanks to Sophie Amir of the Leonard Davis Institute for her warm personal support and unending resourcefulness. The Municipality of Jerusalem housed Raymond Tanter at Mishkenot Sha'ananim, the official guest house of the municipality, in the winter of 1977 when the collection of data for the decision analysis was completed.

In North America, Robert Young, formerly of the Advanced Research Projects Agency, provided partial support for earlier decision analyses. Support from the Canada Council, through its Sabbatical Leave Fellowship Program, permitted Janice Gross Stein to begin the primary

research on Israel's decision-making processes. Harold Jacobson, chairman of the Department of Political Science at the University of Michigan, and Frank Kunz, chairman at McGill, helped to make long-distance collaboration easier. We owe a special debt to Catherine Duggan and Susan Milburn of McGill University who typed and retyped drafts of this manuscript. Catherine Duggan not only responded to innumerable changes with unfailing good cheer but also supplied the typewriter on which the early drafts of the manuscript were written, and Susan Milburn typed the final draft in record time despite the pressure from an author with an overdue manuscript.

A special word of thanks is due Michael Stein and Judith Tanter who adjusted to extended field trips at inconvenient times, adapted with flexibility and good humor to changing schedules, and never objected to long and sometimes outrageous working hours. As colleagues, they understood with no explanation.

If this explanation and this evaluation of Israel's decision-making in 1967 contribute even in a small way to more responsible and rational national security choices, then our debt to those who have given so generously of their time and expertise will be partially repaid. We remain permanently indebted, however, to those who continue to hope that decisionmakers can be rational and who persist in holding them responsible.

Janice Gross Stein and Raymond Tanter,
Jerusalem, Montreal, and Ann Arbor,
June, 1979

part one

A Theoretical Framework

chapter **1**

The Evaluation of Decisions
A Foreword

Do Decisionmakers Matter, and Does It Matter If They Are "Rational"?

People rarely question the rationality of their leaders. Particularly on issues of national security, when so much is at stake, leaders are expected to be rational—to argue logically, to judge carefully, and to choose efficiently among alternative options. These popular expectations fly in the face of a large body of evidence, however, which documents important limits to rationality. The limits are neither simple nor uniform, but vary in scope, intensity, and in their consequences for policy. Rationality and its constraints, the subject of this book, have many faces.

This study examines and assesses rationality and its limits when leaders confront difficult decisions about the use of force. While it systematically explores these limits, it also affirms the importance of rationality in decision-making. The book has two central purposes: to explain the processes leaders use to make choices on matters of national security and to evaluate the quality of their decisions. The explanation of decisions delineates multiple paths to choice, and all but one of these paths constitute different kinds of constrained rationality The evaluation of decisions provides criteria to assess rationality and its limits. These criteria are then used to evaluate the quality of arguments, estimates, and choices leaders made in one particular case: Israel in 1967 The explanation and evaluation of this sequence of decisions challenge the conventional interpretation of rational decision-making which produced a strategic success. Examination and assessment of argument, process, and choice in 1967 highlight important and unexpected flaws in rationality.

Why this concern with the quality of choice? An evaluation of national security decisions assumes first that individual leaders do make a difference, that their choices about the use of force can have far-reaching consequences for domestic and international society, and, consequently, that their rationality must be of central concern. The premise that decisions

about deterrence and defense are not trivial is basic to an assessment of the quality of choice. Before the detailed discussion of criteria to evaluate decisions is begun, it is useful to take a moment to consider whether decisionmakers do matter and whether it matters if they are rational.

In the last quarter of the twentieth century, individuals will no longer shape history but become its pawns. So argue many acute observers who emphasize the extraordinary impact of burgeoning technology and anonymous market forces on the scope for autonomous action by this generation of leaders. In the international arena particularly, complex interdependencies among states have constrained the capacity of leaders to control their environment. At home, a maze of organizational processes and bureaucratic politics further limits the latitude of policymakers.[1] Leaders, even the ablest among them, will operate more and more at the margin, or so the forecast goes.

Despite this increasing complexity in the international environment, however, individual decisionmakers continue to loom large in contemporary politics. In an interdependent world, the actions of one must matter more rather than less to all the others. Interdependence, even though it complicates the decisional environment, increases the consequences of policymakers' choices for other members of the international system. Individual choice becomes more rather than less important.

The scope for individual decision is also increased by the ambiguity of information in an uncertain and complex world. Because information is frequently ambiguous or inconsistent, multiple interpretations are possible and plausible.[2] Choices among these plausible interpretations and selection among possible options, no matter how few, remain the province of central decisionmakers. If choices are to be made, rather than avoided, they must be made by those leaders formally authorized to do so. The obvious alternative to neglect or non-decision-making is the intrusion of individuals into the processes of history [3]

If an interdependent environment imposes constraints, it also provides new opportunities. Contemporary leaders have far more sophisticated instruments at their disposal than did their predecessors. Much of the new technology which has challenged their efficacy has simultaneously expanded their sphere of competency. A vastly improved communications network, for example, has transformed many of the rules of international

1. Considerable emphasis has recently been placed on the external and internal constraints operating on foreign policy decisionmakers. Katzenstein (1976) and Keohane and Nye (1977) examine the impact of interdependence, and Allison and Halperin (1972) explore the constraining consequences of bureaucratic politics on the latitude of policymakers.

2. Holsti (1976:18-54) and Jervis (1976:13-31) develop these arguments.

3. Bachrach and Baratz (1963) argue that even non-decision-making requires the active intervention of decisionmakers who often must mobilize opinion to exclude an issue from the agenda for decision.

political life. The slow, somewhat tortuous diplomacy of earlier historical periods has been superseded, for better or worse, by almost instantaneous transmission of messages from one leader to another. Presidents and prime ministers conduct important negotiations live through satellite technology and, as television stars, they have unparalleled access to public and private audiences. Skilled in the use of transnational technology, contemporary leaders use the international system as their stage. Far from being anonymous, they frequently stand out in sharp relief from the gray, frustrating, difficult environment in which they work.

The consequences of external interdependencies and internal bureaucracies, moreover, are not felt evenly in all areas of policy and in all kinds of decisional situations. When problems are not routine, they cannot be dealt with easily through standard operating procedures and established bureaucratic norms. When the extraordinary occurs, decisionmakers frequently cut through ordinary procedures and expand their latitude for decision. This is particularly so on issues of national security when the use of force is possible. For no state is the use of force routine; and generally, whenever and wherever the use of force is considered, choices are made at the pinnacle of government. Leaders rarely delegate decisions about defense and deterrence to their subordinates but reserve the right and the responsibility to make those choices that jeopardize the security or survival of their communities.

Preoccupation with defense and deterrence is not now, nor is it likely to become, an esoteric concern of the few. On the contrary, even after a decade of détente, leaders of the industrialized world continue to devote considerable attention and resources to stabilizing their security relationships. The leadership in newly independent states, working within more recently established borders and with fewer binding and well-developed ties, grapples even more actively with many of the security dilemmas that preoccupy their counterparts in the industrialized world. Most leaders acknowledge that national security must include not only the absence of threat but also the presence of growth and development, but they consider a modicum of military security an elusive but essential precondition of prosperity. This is especially so in an unstable Middle East where historically decisionmakers have paid less attention to development– in part because of the absence of security. And, particularly in the Middle East, the choices of individual leaders are of consequence not only for those within the region but throughout an interdependent world community Interdependence increases the importance of the choices of these high-level policymakers who face important security dilemmas.

If leaders do make some difference, then their rationality must be of central concern to those who explain and evaluate their choices. To be held responsible, decisionmakers must be capable of being rational.

Criminologists, for example, recognize temporary insanity as an extenuating circumstance even for an act of homicide. This emphasis on rationality as a prerequisite to responsibility can be traced back as far as the onset of serious philosophical discussion. Particularly within the more recent tradition of the eighteenth century Enlightenment, rationality was both assumed and valued as the defining characteristic of human nature. Not only philosophers but also statesmen and diplomats were considered capable of reasoned thought and rational decision. Responsible leaders, it was argued, carefully consider their basic assumptions and are sensitive to flawed inference or contradictory argument; not only do rational leaders search for truth and understanding through reason, they are also capable of choosing the best option to achieve their objective.

Confident of human capacity to reason and calculate, Enlightenment philosophers considered that only improved information and better argumentation were needed to improve the quality of choice. Faulty decisions were the result of ignorance, and progress was possible through education. Because scholars who assumed that leaders could be rational held them responsible, they did not treat kindly those who made poor decisions or committed irrational acts.

Some philosophers have challenged the assumption of objectivity which underlay the premise of human rationality. Those who emphasize phenomenological rather than logical processes begin by arguing that decisionmakers define the boundaries of their problems through their perceptual networks. Phenomenology emphasizes human interpretation and evaluation of observable events; what exists is what decisionmakers consider to exist.[4] Since an objective environment is ultimately unknowable and therefore irrelevant, argues the subjectivist interpretation of human history, an understanding of choice must rest on the explanations that leaders themselves offer. These explanations, not necessarily the product of strict reason, establish the context of a decisional problem and shape the subsequent process of choice. If individuals do matter in history, then history is shaped by their perceptions of the historical process. History is not objective matter but subjective spirit.

The argument of phenomenologists does not threaten the concept of human rationality since rationality is not dependent on objectivity. Put another way, the assumption of a subjective context of decision is not inconsistent with that of human rationality. Leaders may consider carefully the quality and power of competing arguments, examine

4. The phenomenological tradition within philosophy draws heavily on the work of Edmund Husserl who argued that the development of human self-awareness could be understood only through non-objective means. Although there are several schools within the phenomenological tradition, the core of that tradition is the emphasis on self-explication by subjects in their own right.

sequences of cause and consequence, and choose those options which they consider most likely to achieve their purposes. Although objective rationality is precluded, subjective rationality is not. Psychologists have posed a much more difficult challenge, however, to those who consider human rationality the defining characteristic of the species.

Cognitive psychologists argue empirically that rationality, however desirable, is not the generally dominant mechanism of choice. Evidence drawn from a considerable body of research disputes the likelihood of rationality; human capacity for complex calculation and reasoned argument is constrained by basic cognitive structures. Decisionmakers diagnose problems, draw inferences, examine alternatives, and make choices through mechanisms which bear little resemblance to the ideal of *homo sapiens*. Leaders are constrained not only by complex interdependencies in their environment, but also by unconscious mental processes and mental equipment. It is biology and psychology which limit logic.

While the argument of phenomenologists has been accepted implicitly by many who study the making of national security decisions, new issues are joined when analysts grapple with the evidence of cognitive psychologists and debate the scope and limits of constrained rationality. There is little agreement either on its boundaries or on its essential components. Consequently, when they evaluate decisions, analysts often use the concept of rationality quite differently. Some concentrate on the quality of the selection and consider rationality as the choice of the most appropriate means to achieve given ends. Rationality then becomes a capacity for efficient choice. Others emphasize the quality of the procedures decisionmakers use to make their choice and pay particular attention to information-processing and estimation. The third and most inclusive concept of rationality emphasizes the logical quality of argument which shapes both the process of choice and its outcome. To be fully rational, a decisionmaker must be an efficient chooser, an optimal estimator, and a logical thinker.

Application of these standards to particular choices is no easy matter. The analyst confronts problems of thresholds, feasibility, interrelatedness, and challenges to the validity of the standards. First, the precise threshold between rationality and irrationality is not obvious. The boundary, for example, between open-minded revision of estimates and exaggerated response to questionable information is not clear. Second, these standards are demanding and difficult to meet; if they are to be valid as criteria, they must be feasible and capable of being met. And third, meeting any one standard may make performance of related tasks more difficult. Pursuit of logical coherence in argument, for example, may complicate critical examination of evidence and options. Finally, these criteria are

not acceptable to all those who evaluate the performance of decision-makers; some are not fully consistent with a concept of subjective rationality. Despite these difficulties and because the difference between rationality and irrationality is important—and fraught with consequences for policy—the evaluation of choice, process, and argument must be of central concern.

Evaluation of Efficient Choice

The criterion for evaluating the rationality of choice is the least ambiguous. Decisionmakers are judged rational only if they choose the most efficient option, or that alternative which promises them the highest expected value. The standard of performance is fairly straightforward: after they have identified their options, estimated the likely consequences of these options, and considered their cost and benefit, decisionmakers "trade off" expected cost and benefit to establish expected value. To make their choice, decisionmakers select that option which promises them the greatest gain or the smallest loss. Clearly, it would be irrational to choose the more costly alternative. Expected-value maximization, then, serves as the criterion to evaluate the rationality of choice.

Efficiency as a criterion is fully consistent with a concept of subjective rationality. Decisionmakers need not choose the most promising of all possible alternatives, but only the most efficient among the alternatives they have considered. Nor do they need to estimate all the likely consequences or calculate all the costs and benefits. Within the context of whatever estimates of likelihood, cost, and benefit they make, they need only choose that option which promises them their highest expected-value. A criterion of subjective efficiency imposes no unique solution to a problem. Indeed, one would expect that decisionmakers who differ in their estimates of probability or cost and benefit would differ in their choices unless they are irrational. But, to be rational, decisionmakers must work with some estimates of likelihood and value to determine the most efficient option. If they do not calculate, they cannot be efficient.

Although such a decisional process would not meet fully the criteria of reason established by Enlightenment philosophers, such a process is likely to produce a technically rational or efficient choice. Other things being equal, "good" procedures are more likely to produce "good" outcomes, and an efficient choice indicates a "good" decision-making procedure. Those who recommend systematic procedures recognize, of course, that they cannot assure good outcomes in each case (Brown, Kahr, and Peterson, 1974:4). The story is told of a scorpion who, wishing to cross from one bank of the Jordan River to the other, spied a frog nearby and asked for a ride. The frog was somewhat reluctant to ferry the scorpion across the river. After considering the likely cost of some of the consequences, the frog

replied: "If I give you a ride, you may sting me and we'll both drown." The scorpion assured the frog that such an action was unlikely since their joint objective was to reach the opposite bank of the river safely. Reassured by the additional information, the frog reconsidered and agreed to the scorpion's request. Halfway across the river, the scorpion stung the frog; the obvious outcome of the scorpion's choice was the death of both. With final breath, the frog expressed bewilderment to the scorpion who explained: "You don't understand—this is the Middle East."

If the quality of the frog's decision were evaluated by its consequence—death—the choice would obviously be a poor selection. The unsatisfactory outcome, however, did not result from a poor process of individual decision-making. The frog, after all, did consider the likelihood and cost of the consequences of ferrying the scorpion across the river and may even have made the efficient choice. The frog's death was the result of the action of the scorpion who did not consider net cost or benefit but alluded to other premises to explain the decision. The choice of one brought disaster to both, a not uncommon experience in international relations. Even if policymakers do manage to select the "expected-value maximizing" option, the immediate outcome in a sometimes capricious and often uncertain environment may not be anticipated or desired. Moreover, interdependence can produce jointly irrational results although each party individually is efficient. Over time, however—if the initial consequences are not ruinous and leaders have time—it is more likely that such systematic procedures will produce "good" results.

Given this caveat, those who insist that efficiency of choice is a central component of a rational decision, who focus on repeated decisions rather than on a single instance, use only the expectations and values of decisionmakers and renounce the unfair advantages of hindsight. They exclude additional data introduced, *ex post facto*, but unavailable to a leader at the time, and insist that the evaluation of the rationality of decisions includes only the limited knowledge and complex preferences of leaders when they made their choices (cf., Coombs, Dawes, and Tversky, 1970). An evaluation of a decision, for example, that incorporates information about the irrationality of an adversary—information that a decisionmaker could not possibly have had—is grossly unfair to the leader who very likely suffered the consequences. To go beyond the estimates decisionmakers themselves make, the argument goes, would be to violate the premises of subjective rationality.

Not all those who make judgments about the quality of choice are happy with this reliance on the stated purposes, values, and estimates of leaders as the basis for evaluation. Criticism is launched on several levels. First and most important, critics insist that it is inappropriate to accept the purposes of policymakers as given and to consider only the efficiency of their means.

No matter how efficiently a group of decisionmakers were to pursue such objectives as genocide or massive annihilation of an adversary's civilian population, few would judge such leaders rational. Intuitively, most of those who study decisionmakers will not begin to evaluate their efficiency if they consider their purposes morally outrageous.

When analysts question the purposes of leaders, however, they no longer assume subjective rationality but draw upon standards external to the decisionmaker. Although the criteria they invoke may be flexible and may allow considerable variation in the range of permissible purposes, these standards reflect a larger social or broader cultural ethos. Even though they rarely acknowledge it, most of those who evaluate efficiency generally do so only if the objectives of leaders are broadly acceptable. Before they begin their assessment of the rationality of choice, they engage in some prior assessment with other ethical criteria to eliminate the unacceptable as an object of evaluation. Although the introduction of other criteria challenges the central assumption of subjective rationality, those who evaluate decisions apparently tolerate some inconsistency.

Even when purposes are not in dispute, critics are reluctant to rely exclusively on the stated values of leaders (Holsti and George, 1975:269).[5] One group of decisionmakers, for example, may place overwhelming emphasis on cost and consistently seek to avoid loss. Other leaders, working with the same problem, could focus most of their attention on possible gain (cf., Slovic and Lichtenstein, 1968). Using comprehensive and systematic procedures, the former would choose the risk-averse while the latter would choose the risk-acceptant option. But both decisions could be rational, and an evaluation of their efficiency could say nothing about their relative merits. When subjective efficiency is the only criterion, there are no unique solutions which are independent of the estimates leaders themselves make. A choice between efficient decisions cannot be made exclusively through rational decision procedures. While those who evaluate the rationality of choice can indicate whether leaders indeed were efficient in their selection of means, they cannot judge the rationality of values which inform the choice.

Finally, critics argue, if rationality is restricted to the efficiency of choice, it becomes partial and static since it builds in no evaluation of the quality of information-processing. Technically, should policymakers make no adjustments whatsoever in their consideration of the likelihood of different

5. George (1972:768-769) proposes that, even when the values of policymakers are not in dispute, evaluation of efficiency must include such criteria as the accuracy of estimates and the timeliness of response as well as the suitability of means. He suggests, however, that a broader normative framework is necessary. Central to any evaluation of decisions are the values which inform choices. Assessment of rationality must include a critical examination of values and value hierarchies, value conflicts, explicit doctrinal beliefs, and implicit decisional premises. They are considered here under the rubric of rationality of estimates and argument.

consequences, even in the face of substantial environmental change, their choices could be considered rational. Intuitively, an assessment of rationality in light of such rigidity seems unwarranted. Yet, to question the quality of leaders' estimates, analysts must go outside the boundaries of subjective rationality.

This tension between internal and external criteria of evaluation cannot be resolved without doing some violence to one or the other. Certainly, an evaluation of rationality must begin with an assessment of the efficiency of decisionmakers. In the course of this assessment, moreover, analysts simultaneously can explore the impact of different values on the choices leaders would make if they were efficient. When analysts do so, they deal at least indirectly with the impact of alternative values on choice.

If leaders cannot choose the best available means given their ends, if they are not subjectively efficient, then constraints to rationality are indeed severe. An evaluation of subjective rationality, therefore, is a minimal obligation for those who explain choice through subjective processes. But efficiency is a necessary but insufficient condition of a more dynamic concept of rationality. While proficiency is important, it is not enough. When analysts go beyond the internal logic of decisionmakers, when they evaluate more than efficiency, they address the rationality of information-processing and the formulation of estimates.

Evaluation of the Rationality of Estimates

Before decisionmakers can choose among available alternatives, they must somehow process information to make judgments or estimates about the likelihood of different consequences. These estimates of probability are a central component in a dynamic process of choice. When evaluation is extended beyond the rationality of static choice to include the dynamic process of choosing, appropriate criteria are much less clear-cut. Generally speaking, leaders who are rational carefully monitor change in their environment, are open and receptive to new evidence, examine several rather than only one explanation of unexpected information, and revise their estimates in response to changes they consider important. Beyond these generalities, however, there is debate about both the processes and the scope of rational judgment.

In the search for appropriate standards, a comparison is frequently drawn with the scientist as a rational decisionmaker. A rational process of estimation then becomes one which conforms to the norms established by scientific practices for the management of evidence. Such gross deviations from accepted norms as the retention of central organizing assumptions which are weakly supported by prevailing theory and evidence, or the discounting of overwhelming amounts of discrepant information, or a failure to search for evidence that the observer considers clearly available

and important are treated as evidence of irrational estimation and revision (Jervis, 1976:156-172). Imposing an even more demanding criterion of judgment, Popper (1959) argues that the distinguishing characteristic of the scientist as a rational decisionmaker is an attempt to falsify those assumptions which organize the interpretation of evidence and the making of inference. Since *ad hoc* hypotheses can be added or concepts modified to accommodate evidence which challenges central assumptions, a rational decisionmaker deliberately searches for information to invalidate organizing concepts.[6] In an amplification of the argument, Lakatos (1970) emphasizes that, since assumptions are often competitive, a rational decisionmaker engages in comparative evaluation of more than one, if not multiple hypotheses. Only through comparative evaluation can estimates be appropriately sensitive to new information and evidence.

The use of the scientist as a model does not really solve the problem of appropriate standards for processes of rational judgment, First, the procedures scientists use are by no means clear-cut. Critics of the neo-Popperian view of science suggest that even those scientists who engage in experimentation under controlled conditions do not normally make their decisions using such rigorous criteria. Kuhn (1962, 1970a, 1970b) argues, for example, that "normal" science proceeds through a shared set of assumptions which dictates the problems to be investigated, a range of plausible hypotheses, and criteria of the adequacy of evidence to confirm these hypotheses. It is only in a "revolutionary" stage of paradigm change that decisionmakers in the scientific community consider falsification of one paradigm and its replacement by another. Otherwise, a community of scientists generally amend and modify available theory to accommodate moderately discrepant information. Indeed, the scientist anticipates that investigation will produce some inconsistent evidence or anomaly purely by chance. Falsification or rejection of a hypothesis in the presence of some competing evidence would be inefficient and costly in a process of scientific decision-making.[7] And it would not be a rational response to a diverse and random environment.

Even these criteria of normal scientific investigation are not fully appropriate if they are to be used to evaluate information-processing and

6. The neo-Popperian criterion of rationality consists of at least two separate components: attitudes or policies toward central assumptions and rules for their evaluation. Only the procedures for the rejection of a hypothesis relate to the management of evidence to draw inferences. Of much greater importance is the emphasis on policies, or cognitive predispositions, toward the validity of central concepts. Rational assessment of concepts depends on prior cognitive attitudes toward the activity of assessment. See Mortimore and Maund (1976:11-33) for a more extended discussion.

7. When analysts intrude the cost of extended search or premature rejection of a hypothesis in their evaluation of the quality of inference, they shift their criterion of rationality from process back to outcome. They are no longer evaluating the quality of the process but the efficiency of the decision to accept or reject.

estimation by policymakers. In the early stages of a decisional problem, when leaders are most open and receptive, they usually are not as self-conscious as scientists in their interpretation of evidence. They generally do not engage in formal consideration of competing hypotheses or use established criteria of admissible evidence as a basis of confirmation.[8] Since policymakers generally are not amateur scientists and rarely work under controlled conditions, standards extrapolated directly from routine scientific procedures may be too rigorous.

If the criteria of rational procedures are in dispute, the constraints to even a rough approximation to these processes are well-documented by cognitive psychologists.[9] Yet, there are cases where leaders have demonstrated careful management of information and scrupulous attention to procedures. During the Cuban Missile crisis, for example, advisers self-consciously searched for additional information and examined competing interpretations (Janis, 1972). A comparative investigation of decision-making and bargaining during international crises also finds that attention to discrepant information, though not common, nevertheless does occur (Snyder and Diesing, 1977:333).

Even if decisionmakers do scrupulously observe these rules of evidence, the direction and scope of the changes they must make in their estimates may be unclear. There are no unambiguous criteria of optimality in opinion revision; it is not clear precisely how much change is appropriate. This is due in part to the ambiguity of evidence and the plausibility of competing hypotheses and in part to divergent evidence on cognitive biases in information-processing. Analysts acknowledge that, in an uncertain world of ambiguous information, contradictory inferences may be equally rational. When multiple interpretations are possible and plausible, the "right" direction is not obvious and no criterion of rationality can dictate a single conclusion.[10] Because more than one interpretation frequently is possible, a restrictive standard of rationality would not be rational. Analysts must assess the reformulated estimates leaders offer given their available, often contradictory, evidence. In evaluating the direction of

8. Scientific decisionmakers have access to a body of statistical literature which they use to ease some of the problems of inference. To reduce the likelihood of error in inference, statisticians have developed explicit guidelines for rejection of a hypothesis based on the probable occurrence of evidence. They acknowledge, however, that it is impossible to reduce simultaneously the likelihood of making two types of inferential errors. The decisionmaker who concentrates on avoiding the acceptance of an incorrect hypothesis is more likely to reject a correct assumption and vice-versa. It is interesting to note, moreover, that, in its emphasis on rejecting a null hypothesis, contemporary statistics uses a criterion of "falsifiability" to guide inference.

9. Chapter 2 reviews in detail the evidence presented by cognitive psychologists on the constraints to rational judgment.

10. Jervis (1976:119) develops this argument at considerable length.

change, moreover, they must acknowledge that frequently more than one formulation may be rational.

Analysts must assess not only the direction of revision but also the scope of change. Were estimates changed too much or too little? Psychologists have marshaled somewhat inconsistent evidence on biases reflected in the scope of revision. Some experimental evidence suggests that decision-makers are too radical in their processes of inference. They pay too much attention to the most recent information and give it too much weight in revising their earlier judgments; recent evidence looms too large in the modification of more general beliefs (Tversky and Kahneman, 1971; Bar-Hillel, 1977; and Heuer, 1978). A larger body of evidence, however, suggests that decisionmakers are far too conservative in their judgments. They pay too little rather than too much attention to new information and resist rather than exaggerate.

When competing hypotheses are plausible and evidence is open to multiple interpretations, analysts can get some help from available techniques in assessing the optimal scope of revision. Bayesian analysis, for example, reflects a concern with conservative bias in information-processing.[11] Beginning with the initial estimates decisionmakers provide and consistent with a concept of subjective rationality, Bayesian analysis does not consider the quality of this first set of judgments but provides normative criteria for revision of these initial estimates in the light of new evidence. It does so by reconsidering the likely validity of competing hypotheses as new information is received. Although leaders are unlikely to use the elaborate procedures required by Bayesian analysis, the results can serve as a criterion to evaluate the scope of revision in the estimates decisionmakers offer. Bayesian techniques do not require the falsification urged by Popper but do emphasize the comparative evaluation of assumptions which Lakatos defines as rational. Because Bayesian analysis considers a rational decisionmaker as one who considers truth relative,[12] because it explicitly considers the ambiguity of evidence and competing

11. Named after an English minister, Thomas Bayes, who lived in the eighteenth century, Bayesian analysis is an approach to probability revision which is consistent with the subjectivist orientation of this study.

12. Although a full discussion of the "falsificationist" or neo-Popperian concept of rationality and verification are beyond the scope of the present inquiry, it differs fundamentally from Bayesian analysis in its concept of truth. The neo-Popperians are legatees of Humean skepticism and assume that truth cannot be validated through inductive inference to existing concepts. Closely related is the tradition of causal modeling developed by Blalock where the investigator rejects concepts as inadequate and chooses that model which generates the least inadequate explanation. Bayesian analysis adopts a still different concept of truth and reason. It rejects a concept of absolute validity and explicitly uses one of relative truth. The validity of assumptions is reconsidered through time by sensitivity to new evidence and across time by simultaneous consideration of competing assumptions. The emphasis on probable validity, recalculated in an ongoing iterative process, rather than rejection or acceptance of a hypothesis, is consistent with a concept of relative truth. By implication, a rational decisionmaker is one who considers truth relative.

interpretations, it provides one yardstick for an assessment of the rationality of information-processing in an ambiguous and complicated world.

The frustration of the analyst should be clear to the reader. No precise threshold between rational and irrational information-processing and judgment has been established. Nor can analysts infer a rational process from changes in the direction or scope of estimates. Optimal criteria of revision are not at all obvious when known or "true" probability distributions are neither available nor appropriate. While some leaders may defend an assumption in the face of a volume of discrepant evidence, others will revise their estimates in response to a dynamic environment. *Grosso modo*, most analysts would concur that the latter process of judgment is rational while the former is not. Even then, however, revision may not be warranted despite the large amount of discrepant information. Current evidence may be transient or deliberately designed to deceive; if it is, it should be ignored or heavily discounted. In an uncertain, unstable, and sometimes treacherous environment, there are no general rules for revision that can be applied before the fact. As a first step in an assessment of the appropriate scope of change, the consequences of revision can be compared with those of conservatism in judgment. If, for example, the cost of revising estimates too quickly is greater than the cost of failure to change, conservative revision may be preferable. But because the appropriate direction and scope of revision cannot be ascertained a priori, change in estimates must be highly context-dependent. The analyst and the decisionmaker must examine the empirical context to judge whether to revise estimates rapidly or slowly.

Although optimal standards of estimation and revision cannot be established before the fact, the policy analyst is not totally helpless. Within very general guidelines, procedures of information-management can be evaluated independent of the direction and scope of change. Leaders' handling of the evidence can be scrutinized. Were they aware of ambiguity or contradiction in the information they examined? Did they seek additional information to clarify ambiguity? Did they consider more than one interpretation of the evidence? Did they consider the possibility that they were being systematically deceived? Did they consider the validity of the indicators they used? Did they use probabilistic and qualified or categorical language? In an ambiguous and complicated world, were they skeptical or certain?

Once the quality of information-processing has been assessed, analysts can then examine the direction and scope of change in prevailing estimates. They can survey the competing evidence that was available to decision-makers at the time and, without the benefit of hindsight, consider the appropriateness of change. With careful attention to the biases they are

designed to correct, normative information-processing models like Bayes's can be helpful in evaluation. Although no precise threshold of rational revision can be established across cases and across time, there are broadly defined boundaries. Within these broadly defined limits and drawing on a multiplicity of methods, analysts can assess the rationality of estimates and the processes used to make them.

Evaluation of the Logic of Argument

The ability of policymakers to relate means to ends and to change their opinions does not say anything about whether those same decisionmakers profess logical arguments. Indeed, philosophers distinguish between efficiency or "practical rationality" and the logical quality of arguments or "epistemic rationality" (Benn and Mortimore: 1976:4).

The logical quality of an argument inheres in the relationship among the components of an argument and in the procedures for deriving conclusions from premises. The formal study of these procedures has preoccupied philosophers for centuries and, in the main, discussion has revolved around the appropriate standards of logical argument; some equate logic with consistency, while others base logic on contradiction. Philosophers and historians have examined the structure of dialectical logic where contradiction animates the relationship among component parts of an argument. Alternatively, logical thinking is equated with some form of syllogism or two-premise argument; once certain propositions are posited, others follow necessarily. The logical quality of an argument, then, depends on its consistency. In a logical argument, higher-order inferences are compatible with lower-order assumptions, and two contradictory conclusions cannot be derived from the same set of premises.

Unlike their counterparts in philosophy, cognitive psychologists traditionally have been concerned not with the logical quality of argument but rather with the structure and content of beliefs which organize thinking. Beliefs generally refer to assumptions about the environment. They may be first-order, or fundamental assumptions, or they may be higher-order and have other beliefs as their premises; higher-order beliefs are connected to first-order assumptions. Generally, psychologists use the term "belief" somewhat differently than do philosophers: philosophical discussion tends to emphasize the way beliefs or convictions are held and concentrates on the logic of the calculation based on these beliefs; psychologists, on the other hand, focus directly on the formation, content, and structure of the beliefs themselves.[13]

This study draws on compatible elements from philosophy and

13. The distinction is by no means hard and fast. Some philosophers examine "causal beliefs" or "epistemic rationality," and psychologists consider consistency in the content of beliefs (Adelman, 1974 and Benn and Mortimore, 1976).

psychology to develop and apply standards of logic. It uses criteria of logic derived from philosophy and applies these criteria to beliefs connected in a system. Higher-order beliefs which are connected to first-order assumptions can be considered as arguments. A belief system is a configuration of assumptions and arguments bound together by some form of constraint or functional interdependence (cf., Converse, 1964:207). That is, in a belief system the content of one assumption or belief sets limits for others related to it. The logical quality of the content and structure of leaders' belief systems becomes critical to any evaluation of their rationality.

In the study of national security decision-making, it is assumptions, beliefs, and concepts—the terms are used here in an interchangeable way—about the international and national environment that are relevant. More precisely, it is the logical quality of strategic arguments which is of central concern to an evaluation of national security decisions. These arguments are built as a set of causally related propositions which claim consistency; therefore, evaluation of strategic logic on its own terms with some criterion of consistency is not a priori inappropriate. Selection and application of a standard, however, is far from obvious.

First, there are different forms of logical consistency based on different kinds of syllogistic reasoning, and not all are relevant to the arguments and belief systems of political leaders. Second, strict observance of axiomatic reasoning may be inappropriate to the problems leaders confront and to the limited knowledge they have. Third, consistency must be a matter of degree. While the self-conscious search for consistency improves the logic of argument, the unconscious search for consistency may severely constrain processes of estimation and revision. If an argument is to be reconsidered and revised, its proponent must be receptive to the challenge of discrepant evidence. An intolerance of inconsistency at any level would produce pathology rather than logic. The boundary between the psychological dynamic of consistency-seeking and logical consistency is far from clear. Again, there is no precise threshold, and it is not obvious how much consistency is appropriate or, for that matter, how much is too much. All that can be said with any confidence is that a rational decisionmaker reinforces logical consistency with psychological tolerance of at least some inconsistency.[14]

A second widely accepted standard of the logic of an argument is its

14. The definition of consistency as well as its relationship to rationality is a matter of some controversy. Consistency can refer not only to the absence of contradiction but also to the stability of beliefs across cases and over time. Statistical definitions of consistency also emphasize stability which is measured through low variance. Consistent beliefs, consequently, are beliefs which are highly resistant to revision, and this resistance to revision may be an important component of irrationality. The interaction of processes of judgment with the substance of argument is examined in Chapter 2 where the psychological dynamic of consistency-seeking is discussed.

exhaustiveness. An argument is considered logically exhaustive when it considers all possible contingencies but, again, this may be too rigid a criterion. Exhaustiveness may be an appropriate standard when a universe is well-defined and its boundaries explicit. It is not applicable, however, when arguments organize an unstructured and ill-defined environment. This is precisely the kind of environment in which those who make decisions on national security operate.

To evaluate the logic of the arguments that leaders develop, completeness and coherence as standards may be less rigorous than exhaustiveness and consistency but more appropriate. A complete argument is one which omits no essential causal factor in the relationships it specifies (Brodbeck, 1958:12). Omission of any one of these factors would invalidate the relationships that are posited.[15] An argument is coherent if these factors are related as a set of propositions which are not contradictory. These two criteria of completeness in content and coherence in structure can be used to evaluate the logical quality of organizing arguments and their impact on subsequent processes of choice.

First, the completeness of an argument can be examined to assess its usefulness as a guide to estimation and judgment. If, for example, strategic concepts include a list of indicators essential to monitor change in an unstable and unstructured world, leaders who draw on these concepts may be better equipped to make the kind of estimates necessary for a high-quality choice. Alternatively, concepts may be so simplified that they permit a self-confirming interpretation for any conceivable message and promote irrational resistance to revision. The completeness of concepts decisionmakers accept can contribute directly to a rational process of estimation and revision.

Second, and even more important, the coherence of an argument can significantly affect the diagnosis and definition of a problem for decision. Those responsible for national security frequently struggle with a particularly acute kind of uncertainty; in a poorly defined environment, the pertinent options and their relevant consequences often are not identified. If the arguments leaders know and use explicitly relate option to consequence and cause to effect, then they can be of considerable assistance in the diagnosis of a problem as well as in the identification and evaluation of options. Coherent arguments can help to break down the structure of uncertainty and to organize complexity. When leaders begin with incoherent assumptions and pay little attention to the flaws in the logic, they are severely handicapped in their processes of choice: the constraints to rationality will be severe. On the other hand, the powerful impediments

15. Brodbeck argues that even completeness is too rigorous a standard when knowledge is imperfect and, at best, probabilistic. Given lack of closure and imprecise identifiable referents, completeness can only be approximated but not achieved.

to rational choice can be reduced somewhat if leaders can draw on well-formulated and inclusive arguments. The logical quality of organizing arguments is of considerable importance to those responsible for national security.

Finally, not only the logical quality of organizing arguments but also their use by those who make the decisions can be evaluated. Were decisionmakers sensitive to subtle or nuanced issues? Were they aware of any logical weaknesses in the concepts they accepted and applied? Or, if the arguments were flawed, did leaders replicate these errors during their process of choice? If the arguments they drew upon were complete and coherent, did policymakers understand and correctly apply them, or did they misuse and abuse available concepts when they diagnosed their problem and organized their decisional activity? Both pure and applied logic are a part of a comprehensive evaluation of rationality.

While evaluation of the logic of arguments and belief systems is a central component in a broader assessment of rationality, standards of logic cannot be general and absolute but must be particular and context-specific. The criterion of completeness, for example, cannot be applied uniformly to all kinds of arguments; on the contrary, the scope of an argument is likely to vary with the context and scope of the problem it addresses. Particularly relevant will be prior examination of the problem and development of earlier arguments. Even more troublesome, standards of coherence also are relative: what is coherent to an analyst may not necessarily be coherent to a leader, and an analyst may miss hidden areas of coherence within a belief system. Psychologists as well as philosophers have been vigorous in challenging an objective concept of consistency as a criterion of evaluation.[16] Finally, completeness may make coherence more difficult: the more inclusive an argument, the more difficult to specify fully coherent relationships among all the component parts. Despite these difficulties in evaluation, however, the importance of organizing assumptions to the subsequent processing of choice makes their quality impossible to ignore. The belief systems of leaders are the starting point of any process of decision: they influence diagnosis of the problem, processes of estimation and revision, and evaluation of particular consequences. The logic of the initial arguments leaders use to organize their problem for decision is among the most important determinants of the choices they make.

The crucial dilemma analysts face in evaluating the quality of logic is the

16. A group of psychologists who study the impact of personality on behavior treat consistency as a property of a belief system rather than as an externally-imposed criterion of evaluation. See the debate between Mischel, 1973 and Bem and Allen, 1974. Anthropologists also debate the bases of coherence in different thought systems and question the uniformity of standards across cultures. They pay particular attention to hidden bases of consistency which may elude an outside observer. For a brief review of the anthropological and philosophical debate, see Lukes, 1974.

substitution of their standards for those of the decisionmaker. For those who begin from phenomenological premises, it is especially difficult to go beyond the framework established by those who frame the argument. Fortunately, because assessment of the substance and use of strategic logic is so important, this dilemma may be more apparent than real in the evaluation of national security decisions. Contradiction between the assumptions of the analyst and those of leaders responsible for national security does not appear to be serious; insofar as leaders work with strategic logic, they accept a comprehensive concept of rationality. They too assume logical argument, rational processes, and efficient choice. More so than many of their academic colleagues, policymakers assume interdependent bargaining through logical argument and rational processes. Those who study and those responsible for national security decisions share a common criterion: both work with some standard of rationality. Although leaders frequently acknowledge human frailty, the possibility of error or miscalculation, and attempt to guard against its consequences, they nevertheless generally assume rationality in order to plan and choose. The alternative, they suggest, is paralysis in the face of history.

It appears that those who study national security decision-making can escape neither the empirical nor the normative exploration of its rationality. If for no other reason than that those charged with responsibility for security see little alternative to rationality as the standard, evaluation of its dynamics must be a central concern. At the same time, contemporary scholarship continues a long and honorable philosophical tradition when it emphasizes rationality as a criterion of evaluation. Drawing on compatible elements within the phenomenological, psychological, and logical traditions, rationality is broadly conceived. A comprehensive concept of rationality encompasses the efficiency of choice, the quality of learning and judgment, and the logic of argument. With full awareness that decisionmakers rarely meet the exacting requirements of rationality in choice, estimation, and argument and with the expectation that rationality is constrained, the analyst nevertheless can proceed with a yardstick that is acceptable to all the *dramatis personae*. Humility replaces resignation when analysts focus on the extent to which decisionmakers can and do approximate rationality.

Just as criteria for an evaluation of the quality of choice are drawn from phenomenology, psychology, and logic, so an explanation of choice must include multiple parameters if it is to address the complex processes and different forms of limited rationality. The next chapter explores different explanations of rationality and its constraints. A brief overview of the rest of this book, however, may be of some help in guiding the reader through the detours and by-ways on the rather lengthy road to explanation and evaluation of decisions.

An Overview

This study examines the scope and consequence of constrained rationality among Israel's leaders in May and June of 1967. It explains and evaluates the choices they made when they considered options of force in a national security crisis. Decisions are treated not as discrete acts but as part of a process over time which permits an analysis of a sequence of decisions and an assessment of the cumulative impact of choice.

Chapter 2 reviews the principal explanations of choice and examines the impact of collective decision-making in situations of crisis. It compares explanations of the five principal decision-making tasks—diagnosis, search, estimation and revision, evaluation, and choice—and pays particular attention to different forms of constrained rationality. Chapter 3 develops the central theoretical argument. In an effort to transcend some of the ongoing debate in the literature, available explanations of choice are synthesized insofar as they are complementary. Multiple paths to choice which represent different forms of constrained rationality are developed, and the sensitivity of these paths to the logical quality of argument and group decision-making procedures as well as to leaders' perceptions of threat and time is considered. The chapter concludes by establishing appropriate levels of analysis and criteria of admissible evidence and inference for a valid explanation of decisions made by Israel's leaders in 1967. As Chapter 1 establishes criteria of evaluation, so Chapter 3 sets the scene for explanation.

Since strategic arguments are considered an important component of the belief systems of leaders responsible for national security, Chapter 4 examines the concepts of deterrence and defense developed by Israel's policymakers before 1967. Insufficient attention has been paid to the use of strategic logic by decisionmakers when they make national security choices. The chapter evaluates the logic of strategic arguments and their likely impact on the subsequent rationality of process and choice.

The next three chapters go to the heart of the matter and examine the performance of the five decision-making tasks in May-June 1967 when leaders considered the use of military force. Drawing on the paths to choice developed in Chapter 3, Chapter 5 explains the decisions to mobilize, Chapter 6 the decisions to delay, and Chapter 7 the decision to preempt. Each chapter assesses the impact of group procedures, situational perceptions, and the logic of the argument on the rationality of the process.

Chapter 8 explores decision theory, sensitivity analysis, and Bayesian inference as tools for the evaluation of the rationality of opinion revision and choice. In Chapter 9 these methods are used to assess the rationality of the estimates Israel's leaders offered and the decisions they made to mobilize, to delay the use of military force, and to preempt.

The final chapter considers the implications of the research findings for the explanation and evaluation of decisions. It returns to the issues of

efficient choice, optimal estimates, and logical argument and concludes with a reexamination of the concept of constrained rationality and its implications for policy. The study attempts to use multiple methods to untangle critical strands in the web of decisions and to assess the impact of the quality of argument and inference on the rationality of choice.

chapter **2**

The Explanation of Decisions

Choice in an Uncertain and Complex World

Foreign policy decisionmakers do not have an easy time of it. They frequently make their choices in an uncertain and complicated world. Although those who watch decisionmakers struggle offer a variety of explanations of their processes of choice, they do agree that the two principal elements of a decisional problem are information uncertainty and value complexity. If decisionmakers could be sure of the consequences of the alternatives they consider, their task would be much simpler. If an increase in one benefit frequently did not require some sacrifice of another, decision-making would be much less painful. Decision-making, however, is neither simple nor painless.

Those who observe policymakers' responses to the uncertainties and complexities of their environment debate the appropriate explanation of processes for choice. This chapter begins with a brief survey of the three principal explanations—analytic, cybernetic, and cognitive—to compare systematically their analyses of five main decision-making tasks. It then examines the conduct of the individual in a group context and concludes with a discussion of the impact of crisis-induced stress on decisional tasks. Drawing on these explanations, the next chapter specifies a variety of paths to choice and the conditions under which each is likely. By developing multiple paths which combine complementary assumptions from all three explanations, some of the ongoing debate in the literature may be transcended.[1] Before examining these paths to choice, however, a brief discussion of the central problems of all decisionmakers—complexity and uncertainty—and a review of each of the explanations is in order.

Uncertainty is pervasive in the environment of those responsible for national security choices.[2] Decisionmakers allude to at least one

1. Although others (Allison, 1971; Steinbruner, 1974) have contrasted the three explanations of choice, none has specified conditions under which combinations of each explanation are more or less relevant. The emphasis here is on complementarity of elements from each of the explanations. The focus of the prior literature, however, is on difference rather than on the possibilities for creating a synthesis as developed in Chapter 3.

2. McClelland, in particularly apt phraseology, suggests that international relations can be considered a continuous contest between information and uncertainty (1966:134).

component of this uncertainty when they acknowledge that they are frequently unsure of the likely consequences of the options under discussion. If they knew the consequences of available alternatives, then policymakers could choose with certainty. They do not usually claim, however, to be in such an advantageous position. Nor do they generally profess complete ignorance about the likelihood of different consequences. Only infrequently do policymakers complain that they are proceeding blindly with no relevant information whatsoever. Generally, decision-makers work with less than perfect information and often confront contingencies which affect the outcome of their choices but which they do not control.

Since neither ignorance nor certainty prevail, policymakers must somehow estimate the probable consequences of the alternatives they identify. Virtually all national security decisions, then, can be considered as choices whose consequences are uncertain; only the level of confidence with which decisionmakers estimate likely outcomes varies. These subjective estimates of probability become a crucial component of the subsequent decision-making process.

Some analysts suggest that this usual meaning of uncertainty may be inadequate when issues of national security are on the agenda for decision. Commonly used concepts of uncertainty assume that an environment is structured sufficiently so that the range of possible outcomes is known even if the probability of their occurrence is not. In most national security problems, however, even the listing of outcomes is a matter of uncertainty in an environment which frequently lacks sufficient structure. This special form of "structual uncertainty" becomes an important component of the policy environment (Steinbruner, 1974:18).

Decisionmakers must contend not only with uncertainty but also with complexity in their environment. Those who study decision-making processes work with several different concepts of complexity. Some consider complexity a function of information from the environment; as the quantity of information grows, so does complexity. Decisionmakers may be forced to process large amounts of data or large numbers of policy alternatives relative to the time available for decision (Winham, 1977 and Alker and Hermann, 1971:33). Not only size or volume but also variety can increase complexity in a policy environment.[3] When decisionmakers must handle a wide variety of issues or types of information, complexity can become acute.

3. From an international system rather than a decision-making perspective, McClelland considers variety an essential component of uncertainty. His measure of relative uncertainty is a proportional measure of the variety of acts an actor might use. McClelland suggests that an increase in relative uncertainty or variety of event/interaction patterns identifies the onset of crisis (1972:97). Here uncertainty is a function of complexity.

Complexity includes more, however, than the structure of information coming from the environment. Conflict between values, a crucial element of a complex decisional problem, is particularly relevant to this study. The defining characteristic of value conflict is the necessity to trade off one value for another; an increase in one requires some reduction in a second. When resources are scarce, value conflict is likely. If limited resources are used to achieve one intended outcome, they are then unavailable for a second. Even when resources are not transferable, when values do not conflict directly, purposes themselves may be in a trade-off relationship. In 1973, for example, Israel's decisionmakers chose to permit the resupply of Egypt's Third Army, trading military advantage for American diplomatic support in the immediate postwar period. They could not simultaneously encircle the Third Army and maintain American support. If decisionmakers think that they can achieve two purposes at the same time with a single option, then their problem is much simpler and their choice less painful than if they face value conflict. Unpleasant trade-offs, then, are a principal component of a complex decisional problem.

It is useful to consider complexity and uncertainty separately although they are closely related. Even though a decision problem involves no value conflict, leaders are likely to be uncertain of the consequences of alternatives. It is very unlikely, on the other hand, that decisionmakers will confront complex decision problems where all consequences are known. To distinguish the two concepts and avoid overlap in this study, complexity refers only to value conflict. Uncertainty and complexity may interact, however, to increase the intensity of both. Evidence drawn from labor negotiations, for example, suggests that value complexity in a decision situation increases the ambiguity of information available to decisionmakers and makes the information subject to a variety of interpretations (Walton and McKersie, 1965:295; cf., Simon, 1969:86).

To make their choices, decisionmakers must somehow reduce uncertainty and simplify complexity. To do so, they must first diagnose their problem and determine what is at issue. They must somehow define the boundaries of their problem to set the scene for subsequent activity. After diagnosis, decision-making activity then generally includes four principal tasks: search, revision, evaluation, and choice. Search refers to the process of obtaining and sharing relevant information as well as to identifying options (Holsti and George, 1975:271). Often, alternatives are not simply available for identification and retrieval, but must be constructed to fit the diagnosis of the problem. Search is active rather than passive and, like revision, is directed principally at reducing structural and informational uncertainty. Revision refers to the updating of estimates in response to new information, thus indexing the sensitivity of decisionmakers to a dynamic environment. Evaluation refers to the processes of examining relationships

within the available information and assessing the appropriateness of alternative options. In their evaluation of options, decisionmakers try to simplify complexity. Through search, revision, and evaluation, policymakers structure and stabilize the decisional environment as a prelude to choice.

Even after decisionmakers have searched, revised, and evaluated, they need strategies or guidelines to structure the process of choosing. Such strategies are often called decision rules. In British legal practice, for example, a well-known decision rule for jurors is "A person is innocent until proven guilty" or "When in doubt, acquit." This decision rule tells the juror not to be equally wary of erroneously convicting or acquitting; the error that is important to avoid is erroneous conviction. In medical practice, different norms have developed to reduce uncertainty; doctors follow a rule of "When in doubt, diagnose illness." The consequences of failing to treat the sick are considered more serious than treating the healthy unnecessarily. In both the legal and the medical professions, practitioners have developed decision rules that anticipate the consequences of error (Scheff, 1963:98-99). Although no equivalent decision rule is available to those who are responsible for national security choices, policymakers often use "worst-case" logic to make their decisions. Risk-aversity predisposes decisionmakers in doubt to diagnose the worst possible contingency and to choose appropriate precautionary measures.[4]

Each of the three principal explanations—analytic, cybernetic, and cognitive[5]—suggests somewhat different yet sometimes complementary responses to these two central problems of uncertainty and complexity; consequently, the explanations posit different processes of diagnosis, search, revision, and evaluation. Performance of these tasks in turn produces varying decision strategies or procedures for choice. The next section reviews and reorders the literature to extract and highlight explanations of these five essential tasks.

4. One of the most explicit statements of worst-case logic as a decision rule is that of former Secretary of Defense McNamara: "In 1961 when I became Secretary of Defense, the Soviet Union had a very small operational arsenal of intercontinental missiles. However, it did possess the technological and industrial capability to enlarge that arsenal very substantially over the succeeding several years. We had no evidence that the Soviets did plan, in fact, to fully use that capability. But . . . a strategic planner must be conservative in his calculations; that is, he must prepare for the worst plausible case and not be content to hope and prepare for the most probable" (1968:57-58).

5. The use of the term "cognitive" to describe the third process of choice is both unsatisfactory and misleading. All processes of choice are cognitive in that all decisions are made through mental processes. Decisionmakers use cognitive processes to estimate, evaluate, and choose. This third process of choice is distinguished by the importance of belief systems throughout the decisional process. A search for a less misleading term, however, produced no better alternative. "Psychological" processes similarly could refer to analytic or cybernetic procedures within a subjective context. By default, current use of the term "cognitive" is continued with the understanding that all three processes refer to subjective decision processes. For similar nomenclature, see Steinbruner, 1974.

The Analytic Explanation

Analytic concepts of decision-making present the familiar picture of the "rational" or efficient decisionmaker. Developed first as standards for performance, these concepts are used with some difficulty to explain rather than evaluate choice. Those who are subjectively rational are expected to reduce complexity and uncertainty first by dividing the decision problem into its major components and then by using a specified and defined procedure to aggregate these components to produce a decision. Analytic concepts pay less attention to problem diagnosis and search than to revision, evaluation, and choice. Once policymakers recognize a problem, they are expected to search for relevant information and to identify alternative courses of action. To evaluate the options they identify, decisionmakers estimate the likelihood of the consequences of each of these several courses of action and order these outcomes in relation to their preferences or values. They then choose that alternative which promises the greatest gain.

Assumptions of comprehensive search, optimal revision, complete evaluation, and value maximization must be somewhat relaxed when processes of choice are explained rather than evaluated. Decisionmakers are not likely to meet these standards fully and consistently, but they may approximate some of these procedures some of the time, and it is precisely this approximation which is of interest in an explanation of decision-making. The boundaries of an explanation of analytic processing, however, are not easily established.

Analytic concepts of decision-making do not specify procedures for problem recognition or identification. Once decisionmakers diagnose a problem, however, they are expected to structure its solution through decomposition of its component options and their consequences. Even then, problem-solving procedures through decomposition remain somewhat vague. While leaders are expected to engage in more than cursory search, both for policy options and for information about their consequences, the limits of efficient search are not easily drawn.

Those who reflexively define their problem with little attempt to consider the issues at stake, identify only one alternative, and examine only that information relevant to one set of consequences clearly cannot be considered analytic. On the other hand, should leaders search at great length for additional information and options, they may delay the evaluation of alternatives already at hand. Formal models of efficient choice are of no help in establishing appropriate criteria of closure; there is as yet no normative theory of search.[6]

6. One possible rule of limiting search for alternatives and their consequences has been suggested: search until the marginal cost of search equals the marginal improvement in the

Even though analytic concepts do not specify criteria of search, some tentative boundaries can be inferred if assumptions are somewhat relaxed. Inevitably, decisionmakers concentrate on the identification of what they consider to be the principal alternatives; indeed, a search for all possible options would be inefficient. Analytic decisionmakers, however, do identify discrete, if not continuous, options and then search for information relevant to their most important consequences. In particular, they look for varying kinds of information in different places. They use several sources to generate multiple streams of evidence. A distinguishing characteristic of analytic decisionmakers is their recognition of the uncertainty and complexity of their environment and their deliberate attempt to extend search beyond their immediate evidentiary base.

In comparison to search, analytic concepts are only a little more precise in specifying procedures of estimation and revision. Policymakers must first extract and then assess a range of information to obtain diagnostic evidence. Criteria to distinguish "signals" from "noise," the first step, are not obvious before the fact, and formal models establish no such a priori standards. Yet, leaders must choose from a mass of data before they can generate and revise estimates of the likelihood of important consequences of the options they are considering. Analytic concepts are silent about this important first phase of information-processing.

Once relevant information has been extracted, very general guidelines to estimation and revision can be inferred from analytic concepts. These procedures do not assume known or "true" probability distributions; objective probabilities are not a necessary assumption within a subjective context of choice. Policymakers frequently generate subjective estimates to consider the likelihood of different outcomes. Their estimates are not categorical but phrased in probabilistic language that mirrors the uncertainty in the policy environment. Generally, people tend to be overconfident in their judgments; they suffer from the "illusion of control" (Langer, 1975).[7] An important characteristic of analytic estimators is the qualified and probabilistic judgments they make.

Decisionmakers must deal not only with an uncertain environment but also with a dynamic one. In such a policy environment, new information may suggest new options to decisionmakers who are struggling with a problem. Incoming information may also encourage policymakers to

alternatives found. Such a rule is neither practical nor optimal. It cannot be used since the value of alternatives is discovered only after search has taken place. It also constrains the identification of new options whose values have never been considered. There are no obvious rules for limiting what is potentially an infinite process. For a discussion of models of the search process—or their absence—see March and Simon, 1958:174, Skjei, 1973:9-46, and Kirkpatrick et al., 1976.

7. Overconfidence in judgment is a principal generalizable finding of judgment research. See Slovic, Fischoff, and Lichtenstein, 1977. Fischoff's evidence of pervasive hindsight biases is consistent with overconfidence in judgment. See Fischoff and Beyth, 1975.

update probability estimates and incorporate those revised estimates in the evaluation of alternatives. Sensitivity to new information and revision of estimates is an important indicator of the analytic processing of choice. Again, it is difficult to specify the appropriate direction and scope of revision before the fact. The optimal rate of revision is dependent in part on the nature of the information and in part on the kind of problem decisionmakers confront; standards of revision are highly context-dependent.

If analytic explanations cannot establish the appropriate rate of revision before the fact, they do specify appropriate procedures of information-management. Analytic decisionmakers consider the impact of newly received information on the validity of competing, rather than single, assumptions and on the probability of a variety of consequences. They are sensitive to ambiguity or contradiction in the evidence and consider more than one interpretation of the ambiguities they do identify. Analytic procedures generally encompass the use of more than one indicator to revise estimates, and they pay explicit attention to probabilities in an uncertain world. The probability estimates generated by these procedures are a critical component of an analytic process of evaluation and choice.

In an analytic process, decisionmakers evaluate alternatives by ordering their preferences across dimensions of value. Policymakers who have not yet chosen to sign the nuclear non-proliferation treaty, for example, may confront the choice between improving their international reputation and increasing their deterrent capability. They consider it possible to achieve one only at the expense of the other. If they are analytic, policymakers estimate the cost and benefit of the consequences of the two available options and then use some measure to calculate net cost or benefit. When they prescribe choice, models of rationality assume that decisionmakers comprehensively calculate cost and benefit, rank order their preferences, and produce estimates of net gain or loss for each option. Again, these assumptions must be relaxed if analytic concepts of decisionmaking are to be used as explanation.

Just as decisionmakers do not search for all options, neither do they consider all possible costs and benefits. Indeed, if comprehensive costing refers to examination of all possible factors, evaluation of options could extend indefinitely. Enumeration of large numbers of negligible factors is empirically unlikely and probably unwise. Decisionmakers can be considered approximately analytic if they identify what they consider to be the important costs and benefits of major alternatives. More important, analytic decisionmakers recognize value complexity when it exists in the environment. They do not assume that they can achieve all values simultaneously, but they acknowledge that some trade-off may be necessary. Some value may have to be sacrificed if another one is to be

achieved. Analytic decisionmakers do not insist that their preferred policy option is "best" on all dimensions of value. In their discussion and evaluation, they are likely to argue that a policy option is "the best possible under the circumstances" of complexity and uncertainty.

The calculation of net cost or benefit is neither simple nor obvious. If decisionmakers are to produce some net estimate, they must be able to order their preferences. This integrated set of values provides the yardstick to measure the loss or gain of alternative outcomes. Obstacles to the construction of such a yardstick are well known and widely discussed. If values are expressed in common units, as they are in many business problems, comparison is easier though not without difficulty.[8] When there is no common unit of measurement, however, decisionmakers must translate units of value to produce a cardinal scale. They must compare one value with another to produce an estimate of net worth.

Although decision analysis provides procedures for comparison across dimensions of value, these procedures are useful as norms in the evaluation of the quality of choice.[9] Policymakers themselves are not likely to perform these complicated and precise calculations. Decisionmakers can be considered analytic even if they engage in a crude process of measurement where they generate non-quantitative estimates of cost and benefit. They may refer to the military advantages of an option which are offset, however, by its more important and unfavorable diplomatic consequences. They may discuss a loss of international prestige which is more than compensated for by strategic gain. When they use such concepts as compensation or "sacrifice" of one value to achieve another, decisionmakers are acknowledging rather than avoiding value complexity. Without making explicit the yardstick they are using, decisionmakers somehow do make comparisons across values to permit crude estimates of net cost or benefit. Some direct comparison of alternatives is at the core of an analytic process. In a complex world, if decisionmakers consider obvious costs and benefits of principal alternatives, acknowledge the value complexity their estimates may produce, and approximate some process of trade-off, their process of evaluation can be considered analytic.

In an analytic process, a decision rule follows directly from prior processes of search and revision as well as from the calculation of net cost or benefit. Formally, to make their choice, decisionmakers are expected to discount the value of each option by the likelihood of its consequences and select that option which promises the highest expected value. The requirements of such an expected-value calculus are not simple; at the least,

8. Even when units are expressed in dollar values, calculations for each decisionmaker will differ according to the value attached to money itself.

9. Procedures for construction of a "yardstick" and for comparison across dimensions of value are discussed in Chapter 8.

decisionmakers have to perform some complicated multiplication. There is growing skepticism of leaders' capacity to understand, much less perform, these complicated calculations (Snyder, 1978 and Jervis, 1979).

While formal calculation is unlikely, a body of empirical evidence does suggest that decisionmakers have considerable capacity as "intuitive statisticians." Psychologists who have examined processes of explanation or attribution find that their subjects work intuitively with statistical principles like covariance and discounting (Kelley, 1973 and Ross, 1977). While far from unbiased in their application, these intuitive statisticians would not be confounded by consideration of probability and value. Although decisionmakers are unlikely to make their choice through explicit calculation, it is possible that they will use much cruder processes to consider probability and value together. Analytic decisionmakers will attempt to choose what they consider to be the best among a set of alternatives through direct comparison of their likely advantages and disadvantages.

When concepts of analytic decision-making are modified to explain rather than to prescribe processes of choice, some empirical evidence suggests that decisionmakers have the capacity to approximate such processes. A defining characteristic of analytic decisionmakers is a search for causal explanation of the relevant outcomes (Steinbruner, 1974:34). Analytic thinkers examine the causal connections between option and consequences and consider the impact of an option on different outcomes. They try to understand the consequences of an action they may choose. Attribution research in psychology, in particular, finds strong evidence that decisionmakers intuitively perceive causality and attribute reasons for the occurrence of events.[10] Concentrating on the capacity of people to explain events, attribution research suggests that individuals do construct complicated cause and effect sequences. In their processes of attribution, individuals are considered intuitive scientists (Kelley, 1973).

The attribution of cause to effect may serve important psychological needs. Decisionmakers may impose order on their environment by constructing cause-effect sequences (Kirkpatrick, 1975:70). They may try to predict and control their environment by anticipating the effects of their actions. They can do so only by considering the consequences of the options they examine. Indeed, the lack of structure in the environment which creates uncertainty leads decisionmakers to structure and order a chaotic world through causal inference.

Because people intuitively make causal inferences, however, they are not

10. The psychological literature on processes of attribution is considerable, but there is as yet little consensus on the processes or the mechanisms used by decisionmakers to construct explanations. Pioneering work was done by Heider, 1958, and continued by Jones and Davis, 1965; Kelley, 1967, 1972a, 1972b, and 1973; Bem, 1972; and Ross, 1977. For a useful review of the literature, see Fischoff, 1976.

necessarily analytic. First, the evidence suggests that processes of attribution are not free of error; there appear to be systematic biases in the construction of explanations.[11] Second, although people work with a variety of causal schemata, they tend to prefer the simpler to the more complex.[12] They may use only one or two simple causal sequences to reduce the uncertainty in their environment and ignore interaction and feedback (Kelley, 1973 and Axelrod, 1976). They may concentrate on those cause-effect sequences where the effect is desired and pay particular attention to explaining the behavior of others while ignoring the consequences of their own actions. Under these circumstances, analytic concepts would not provide the most powerful explanation of their processes of choice.

A predisposition to think causally, however, may make it easier for decisionmakers to process choice analytically. The connection between option and consequence may be intuitive rather than artificial. After examining the decision-making processes of several policymakers in different contexts, Axelrod concludes that, regardless of the philosophical difficulties inherent in the concept of causation, "people do evaluate complex policy alternatives in terms of the consequences a particular choice would cause, and ultimately of what the sum of all these effects would be" (1976:5). Some psychological evidence suggests, at least, that a capacity for analytic processing is present. At the right time, under the right circumstances, some decisionmakers may be analytic.

The Cybernetic Explanation

Although an analytic process of choice may be optimal, decisionmakers may be unable to make their choices through analytic procedures. They may be incapable of extensive search when uncertainty and complexity are high. Many do not have the time or the interest to engage in far-reaching search. Not only may interest in search be limited, but analytic processing of information may be constrained by cognitive processes. The psychological limits on logic have been widely discussed. In processing new data, decisionmakers are likely to use a series of cognitive shortcuts which distort their revision of estimates. Psychologists who study processes of

11. One fundamental error is the overestimation of the impact of personal or dispositional factors relative to environmental influences. The "intuitive psychologist" is all too frequently a proponent of individual differences (Ross, 1977). Related to egocentric attribution are systematic tendencies to overestimate the purposive behavior of others and to assume that all consequences of action are intended. Decisionmakers also tend to view their own actions as responsible for desired outcomes (Cook, 1971 and Jervis, 1976:346). This evidence is consistent with the more general finding that people apparently have a poor conception of randomness. They do not recognize it when they see it, but find causal explanations for almost any discrepancy (Tversky and Kahneman, 1971 and Slovic and Lichtenstein, 1968).

12. Kelley (1973) suggests that there is a preference for schemata that emphasize "main effects" rather than those that include "interaction effects" within an analysis-of-variance explanation. Axelrod's (1976) evidence of systematic exclusion of feedback from causal sequences would be consistent with simpler schemata.

inference find that, in their processing of information, decisionmakers violate fundamental analytic procedures. Decisionmakers, unlike computers, lack adequate programs for probabilistic thinking: "We have not had the opportunity to evolve an intellect capable of dealing conceptually with uncertainty. We are essentially trial-and-error learners, who ignore uncertainty and rely predominantly on habit or simple deterministic rules" (Slovic et al., 1975:12).[13]

Decisionmakers are not much better equipped to evaluate and choose with analytic procedures. In an analytic process, decisionmakers integrate across dimensions of value in order to produce a set of consistent and transitive preferences. Decisionmakers may find it difficult, however, to compare multiple outcomes and infer a consistent utility function. They are incapable of performing complicated outcome calculations based on a single utility function. Their rationality is "bounded"; they have "neither the sense nor the wits to discover an optimal path" among multiple goals in a complex environment (Simon, 1956:136). Neither a general utility function nor elaborate procedures for calculating marginal rates of substitution among competing values are likely. Decisionmakers use much simpler procedures to cope with uncertainty and complexity.

The cybernetic explanation suggests that decisionmakers rely on selective feedback and programmed operations to make their choices.[14] In an analytic process, decisionmakers approach their problem with a blueprint or a causal model of the environment; they concentrate on understanding and explanation. A cybernetic decisionmaker follows routine procedures without necessarily understanding the effects of individual ingredients or their interaction together to produce the final product. If the stew is too thick, the cook adds water, if it is too thin, a little more flour. The chef substitutes trial-and-error experimentation and learning for causal knowledge. Cybernetic decisionmakers follow programmed procedures without understanding the reasons for them.

13. Those who study processes of inference or judgment have developed a very different concept of human capacity to make rational inferences than those psychologists who study processes of attribution. Attribution theorists consider people to be effective information processors with relatively few biases; the fault lies not within themselves but in the quality of the information they are handed. Those who examine processes of judgment under uncertainty pessimistically conclude that individuals lack not only the "programs" to process information but the mental equivalent of the computer facilities. See Fischoff, 1976.

14. Cybernetic concepts assume that control or "steering" is based not on complex outcome calculations but on selective information of past performance. Wiener defines feedback as the control of a machine based on its actual rather than its expected performance (1950:12). In his application of cybernetic assumptions to the analysis of a political system, Deutsch argues that its future behavior can best be explained by information on its past performance and present position in relation to some external goal or target (1966:182). Simon (1956) applies cybernetic concepts to decision-making when the values of the system are unknown. In so doing, he focuses attention not on the processes of communication and control among the units in a larger system, but on the decision-making mechanism itself. This perspective is particularly useful for the explanation of decision-making under conditions of uncertainty and complexity.

Moreover, they do not care that they do not fully understand; it is not the reasons but the result that counts. They concentrate on the immediate effect rather than the precedent cause. Even then, cybernetic decision-makers generally emphasize one consequence rather than the range of outcomes which their actions may produce.[15]

Procedures of problem diagnosis are well-articulated by cybernetic explanations. Analysis usually has been done long before the fact, and decisionmakers are expected to monitor only a limited number of preselected variables. Only when change occurs in one of these indicators, when some failure is registered, do they diagnose a problem. Problem identification is structured and simplified.

Cybernetic processes of search differ markedly from those expected by analytic explanations. Search is not extensive or comprehensive but limited to a preselected number of responses embedded in routines. When a prevailing policy is no longer satisfactory, decisionmakers search for marginal changes they can make to adjust for its inadequacy. At most, they search to identify the next item in the response repertoire (Cyert and March, 1963:120-121 and Steinbruner, 1974:74-75). This simplified search procedure is consistent with constrained learning; just as human beings learn through trial and error, they also search through trial and error.

Similarly, cybernetic information-processing is focused and selective. To manage uncertainty, policymakers focus on only a few variables which have been preselected as links to existing programs. Existing programs screen out information which is not directly relevant and reduce the amount of information which is processed. Standard operating procedures then permit the revision of estimates in response to these preselected variables; no complicated calculations are required. This highly focused and constrained information-processing is appropriate for decisionmakers whose ability to integrate new information with prior data is limited.

Considerable empirical evidence suggests that decisionmakers do experience difficulty combining indicators and tend to rely heavily on a few major variables to revise their estimates (Tversky and Kahneman, 1974). The revision of estimates in cybernetic processing is conservative; marginal adjustments are made through a process of trial and error. Cybernetic processes of uncertainty control are consistent with constrained human ability to process information.

15. When cybernetic concepts are applied to the decision-making process, rather than to the system as a whole, the assumption of movement towards targets or goals is no longer necessary. In his systems analysis, Deutsch considers simple and complex feedback mechanisms as goal-seeking, goal-maintaining, and goal-modifying activities. An analysis of processes within the decision-making unit, however, need not assume either fixed goals or intended outcomes. Decisionmakers may even attempt to reduce uncertainty by avoiding consideration of direct outcomes. They perform procedures rather than pursue preferred outcomes (Horelick, Johnson, and Steinbruner, 1975:15).

Paradoxically, evaluation and choice are both more demanding and simpler in cybernetic than in analytic processing. They are simpler since no complex calculations across dimensions of value are assumed or required. Decisionmakers cannot and do not employ elaborate procedures to evaluate options. They avoid calculation of trade-offs through fragmentation and rely on standard operating procedures which have precosted and preanalyzed options. Evaluation is limited to the consideration of the next option in the response set. The criterion of choice is not much more complicated. Decisionmakers use a decision rule of "satisficing" rather than optimizing; they select the first option which satisfies their minimum needs. Elaborate decision rules are neither used nor usable, and a simpler decision strategy of satisficing is consistent with "bounded rationality" (Simon, 1956:136).

This simplicity in principle may not be the case in practice; decisionmakers must specify their minimum needs before they can select the first option that satisfies these constraints. Cybernetic decisionmaking is possible only when policymakers have a clear set of purposes they wish to accomplish or disasters they wish to avoid. Unlike their analytic counterparts who can value the outcomes that flow from the options they identify, cybernetic decisionmakers must establish at least a simple sequence of goals. Analytic decision-making is less demanding: goals may remain implicit throughout the process or emerge from the direct comparison of principal alternatives. The first question maximizers ask is not "What do I want to achieve or avoid?" but rather "What are the consequences of this option?" Analytic policymakers have the luxury of responding to their environment while cybernetic decisionmakers must impose their purposes on the problem they confront. While calculation of values is more complicated in analytic processes, cybernetic decisionmakers must at some point establish a set of purposes. Teleology may be considerably more difficult than mathematics.

Just as the most rigorous assumptions of analytic decision-making must be somewhat relaxed, so the role of purpose in cybernetic decision-making may be less central than formal concepts suggest. Indeed, it has been suggested that some decisionmakers use cybernetic strategies to avoid considering either purpose or outcome; they proceed from one option to the next deliberately ignoring the larger issues at stake (Horelick, Johnson, and Steinbruner, 1975:15). They do not so much satisfice as move serially through a sequence of available options already designed to cover such contingencies. In this looser version, decisionmakers do have an easier time. They select the first or the next option in a series without explicitly considering whether their choice meets their minimum needs. They can do so, however, only when other policymakers have already prepared programs and packaged options. If, somewhere in a series, someone

considers and orders either values or purposes, then selecting the next option is equivalent to satisficing.

The outcome of a satisficing strategy is likely to be incremental. This choice, which is the next step in the sequence of options available to the decisionmakers, is not likely to differ significantly from previous selections. Incremental choices are a necessary and not unwelcome product of a cybernetic process. In a political context especially, decisionmakers reduce the stress of uncertainty and complexity by proceeding through small or marginal changes rather than through consideration of abstract values (Lindblom, 1959). These small changes will remain in place as long as they are effective; only when they no longer "satisfice" will further incremental steps be chosen.[16]

Cybernetic concepts may be less than fully satisfactory in the explanation of national security decision-making, the principal focus of this study. They have been used most successfully to explain bureaucratic decision-making which is serial and continuous.[17] Operating within a hierarchical structure, officials return again and again to make adjustments to problems that are not solved but reduced. Decisionmakers choose, knowing that their choices are neither final nor momentous. After a decent interval, if the problem persists, further adjustments can be made which may ameliorate troublesome conditions.

National security problems, however, are often acute and do not permit repeated attempts at problem-solving. Decisions frequently must be made within an unstructured environment, and organizational fragmentation, which usually compensates for lack of structure, may be impossible or inappropriate on an important issue of national security.[18] The core of the cybernetic paradigm, however, is the emphasis on programs for choice and specified responses which permit decisionmakers to process information selectively and avoid calculation of alternative outcomes. These sets of responses may be found not only within bureaucratic organizations, but

16. An incremental choice, of course, may also be the product of an analytic process, if such a choice were the efficient solution of a decisional problem. The likelihood of an incremental response in an analytic process is a function of the particular problem and the expected probabilities and values or utilities. Although not exclusive to cybernetic processing, incrementalism is much more likely within a strategy of satisficing.

17. Complex problems are broken into a series of separate problems, and each is addressed to a separate decisionmaker through pre-established channels. Each has a set of repertoires to manage the specific problem, and the choices of the first become the problem of the decisionmaker one level above in the hierarchy. Problem partitioning, therefore, substitutes for a structured decisional environment. See Simon, 1969 and Steinbruner, 1974 for a detailed application of cybernetic concepts to bureaucratic decision-making.

18. Allison (1971) did apply a model of "organizational process" to American decision-making in the Cuban missile crisis. Although major decisions were made by the central players, the specific details of the options considered and actions taken were determined in large part by the standard operating procedures and programs of the major participating organizations. A complete explanation of the decision process incorporates both analytic and cybernetic components.

also within rigorously elaborated strategic doctrine. Doctrine may integrate prior experience in its consideration of cause and consequence and analysis of cost and benefit. In lengthy discussion and debate on strategic issues, analysts have calculated value before prescribing choice. Doctrine may then structure the decision problem for participating policymakers.[19]

Concepts of deterrence, for example, require communication to an opponent of the likely cost if the adversary does perform an undesired action. In issuing a conditional threat, the deterring power may program subsequent choice and establish the equivalent of a standard operating procedure. As Snyder argues:

> In making a threat the deterrer places in hostage certain aspects of his future deterrent power. The credibility of an irrational response may be increased if the deterrer can appear to commit himself to this response by some device which removes or reduces his freedom of choice. Such "automation" is itself rational. Automation inhibits the choice of all responses except the one which is being relied on for deterrence (1961:24).

Schelling concurs:

> The commitment process on which all American overseas deterrence depends is a process of surrendering and destroying options that we might have expected to find too attractive in an emergency. We give them [options] up on our own account to make our intentions clear to potential enemies (1966:44).

Deterring power A threatens that, if State B does X, then the deterrer will respond with Y The choice of Y would require no additional calculation of cost and benefit, no further assessment of value trade-offs; such calculations have already been performed before A issued the conditional threat. Decisionmakers now need monitor only selected indicators and process limited information to ascertain that the unacceptable action is probable or that it has occurred. These procedures conform to the theoretical expectations of the cybernetic paradigm.

A rigidly automated process of choice where decisionmakers proceed reflexively from threat to implementation is not likely. A cybernetic process, however, does not require such simplification of the decision-making problem. Rather, programs structure the environment and specify both the indicators to be monitored and a series of responses available to decisionmakers. Often, these programs are the result of extensive

19. The capacity of strategic doctrine to reduce complexity and uncertainty may explain its attractiveness to policymakers who have adopted many of its basic concepts. Other concepts developed by specialists in international politics have not been as widely accepted by decisionmakers. Those who question the rationality of strategic logic emphasize the danger of its easy acceptance by policymakers. See Morgan, 1977 The logic of strategic argument is considered in Chapters 4 and 10.

examination and preanalysis. Strategic doctrine can substitute for institutional programs if it is well articulated, consistent, and specifies responses to varying challenges or provides a decision rule. Prespecified response can be nested in doctrine as well as in organizational routine and can affect the process of choice in either case.

The Cognitive Explanation

Analytic strategies of maximizing and cybernetic processes of satisficing are the two principal explanations of decision-making. Each includes a coherent set of predecisional procedures and establishes a distinct decision rule. While each provides a powerful interpretation of decision-making, they may not be fully adequate as explanations of choice. Each may claim too much and include too little. There may be situations where neither applies. And both may pay insufficient attention to psychological evidence which underlines the complex impact of cognitive processes on the performance of decisional tasks.

Critics of the rigorous requirements of analytic decision-making suggest fragmentation and satisficing as an alternative explanation. Decision-makers who must make difficult choices on national security, however, may not always be able to structure their environment by parceling out their problem to smaller organizational units or by referring to doctrine. Generally, major choices affecting security tend to be concentrated in the hands of high-level policymakers who have considerable discretion and are less likely to consider themselves the representatives of bureaucratic organizations (Bonham, 1975 and Holsti, 1976). Issues of national security also are more likely to create dilemmas that are not anticipated by standard operating procedures.

Policymakers also may confront additional problems of information when they consider national security questions. Information may be scarce, and the data that do exist may be of questionable validity and quality. If information is plentiful, on the other hand, decisionmakers may be swamped with pertinent data, and information overload may preclude orderly processing through established channels (Holsti, 1976:29-30). Under such conditions, cybernetic processing, especially through organizational fragmentation, is not likely. Neither problem partitioning nor routinized procedures are likely to prevail.

Not only situational factors constrain the general applicability of analytic and cybernetic explanations. Each explanation achieves coherence by limiting the impact of cognitive factors on decisional activity. Cybernetic explanations do emphasize constrained cognitive capacity to calculate but, like analytic arguments, they do not incorporate evidence of systematic bias in inference. Only part of the evidence from cognitive psychology can be incorporated directly within each of these two

explanations by further relaxing some of their central assumptions. The modifications would become so substantial, however, that the consistency of each would be violated. Cognitive explanations posit fundamentally different processes of diagnosis, search, estimation, evaluation, and choice. Although it has less-developed and less-articulated rules, this third explanation better captures the full weight of the evidence.

Cognitive psychologists concentrate their attention on the organization of belief systems and the subsequent processes of inference and choice. Despite considerable controversy about the impact of cognition on behavior, there is growing emphasis on human capacity to construct and synthesize rather than to photocopy. Far from being passive in the face of history, individuals intervene actively through their cognitive processes to structure their environment. Decisionmakers are not trial-and-error learners, as the behaviorists would have it, but active participants in problem-construction and problem-solving.[20] Insofar as cognitive psychology rejects trial-and-error learning, it differs in an important way from cybernetic explanations of problem diagnosis and choice. Cognitive psychologists address both the logic of argument and the rationality of estimation and underline their boundaries. These boundaries are not synonymous with those that limit the satisficer.

Investigation begins with the systems of belief that decisionmakers use to organize and define their environment. Individuals who think, reason, and learn impose structure on a complex world by the concepts they develop of themselves and others. These belief systems or schemata serve essential purposes; such configurations of interrelated concepts are basic to both argument and inference.[21] Without some set of beliefs, no decisionmaker would be able to organize or interpret the enormous amount of information which is potentially relevant to any problem. There is debate, however, about how well individuals construct and use these central concepts. Some psychologists describe an "intuitive scientist" when they examine processes of causal argument, while others emphasize distortion in logic and flawed causal reasoning.

The most optimistic assessment of cognitive capacity comes from those

20. Mischel (1973, 1977) argues strongly that cognitive psychology provides a better basis for understanding personality's relationship to behavior than do the more traditional drive-reduction or automatic stimulus-response models. He suggests that the impact of personality is mediated through an individual's "grammar" of cognition and rejects broad generalization from personality traits. The effect of a given stimulus depends not on the cognitions individuals have but rather on the operations they perform on the information they receive. Bandura (1974) concurs that control through information, which is rooted in cognitive processes, is more pervasive and powerful than conditioning through contiguous events.

21. Converse (1964:207) defines a belief system as "a configuration of ideas and attitudes in which elements are bound together by some form of constraint or functional interdependence." The terms "belief," "concept," "argument," and "belief system" are defined in Chapter 1.

interested principally in processes of explanation. Attribution researchers, who focus on epistemological questions of how individuals know what they know, are the principal proponents of a model of an intuitive scientist. Working intuitively, this naive scientist approximates almost quasi-scientific procedures to construct causal explanations (Kelley, 1967 and 1973). Initial research emphasizes the quality of causal judgment and suggests unexpected capacity for logical construction. Subsequent evidence, however, demonstrates considerable distortion in attribution processes which create rather biased diagnoses of decision problems (Ross, 1977). The cognitive dynamics of causal argument remain a matter of some controversy. While attribution research has contributed an important corrective to prevalent psychological models by demonstrating impressive problem-solving capacity in the subjects studied, it also has uncovered significant errors in explanatory processes. The intuitive scientist is flawed.[22]

Disagreement among psychologists is not limited to processes of argumentation and problem-construction. While there is considerable consensus that processes of search, revision, and estimation are poorly performed, there is some debate about the sources and direction of these errors in judgment. Evidence on the scope and direction of important biases is inconsistent, and psychologists trace these errors to different cognitive processes.

Psychologists suggest that policymakers are most free from cognitive constraints at the beginning of a decisional process. When they identify a problem, they search actively until they establish an initial diagnosis. As soon as one of several possible concepts provides an adequate interpretation of incoming information, however, decisionmakers are likely to discontinue their search both for additional alternatives and for further information. To shorten the process of search for organizing concepts and relevant options, political leaders often resort to historical analogy (Jervis, 1968, 1976, and May, 1973). Nor do they generally search through a variety of precedent experience to select that analogy which provides the best fit with the current decisional problem. On the contrary, historical analogies frequently are the source of basic misinterpretation (Snyder and Diesing, 1977:321).

The early selection of an organizing assumption establishes a cognitive

22. Ross (1977) finds, for example, persistent overestimation of personal factors relative to environmental influences in the construction of explanation. In a related error of "false consensus," individuals also tend to see their own judgments as relatively common and view alternative responses as deviant. Like many analysts of processes of judgment, Ross finds that initial explanatory errors persist in the face of disconfirming evidence through mechanisms of distortion and autonomy. Jervis (1976:217-283), in his examination of how decisionmakers construct organizing images, emphasizes related distortions in how leaders learn from history. Insofar as cognitive psychology emphasizes impaired processes and flawed judgments, it differs fundamentally from analytic explanations of choice.

framework that is more difficult to alter at a later stage of the decisional process. The cost of examining the fit of new data with alternative assumptions increases as the commitment to one concept increases (Jervis, 1976:192).[23] Search not only for further information but also for additional options is likely to be constrained. Premature termination of search is explained by the well-known hypothesis that individuals are consistency-seekers. They find it particularly difficult to tolerate contradiction or inconsistency within their belief system (Abelson and Rosenberg, 1958:5). To reduce the stress of contradiction, individuals first construct belief systems that are internally consistent and then struggle to maintain this consistency. Decisionmakers, therefore, are likely to identify only those options which are consistent with strongly-held beliefs.[24]

The validity of consistency-seeking as an explanation of cognitive processes is open to some question. Evidence suggests that cognitive structures may not be consistent over time. Below a certain threshold, moreover, inconsistency may be characteristic.[25] The debate arises in part from difficulties inherent in the concept of consistency. As in so many other cases, criteria of consistency may be better derived from the standards of the participating decisionmaker rather than from those of the investigating psychologist. What is consistent to the former is not necessarily consistent to the latter.[26] Even if subjective rather than objective criteria are used, however, the centrality of the search for consistency remains in doubt.[27]

A similar debate is now developing among those who study processes of estimation and revision. Psychologists disagree on the biases they find and

23. Jervis suggests that a policymaker who avoids formation of an initial hypothesis until large amounts of data are available is more likely to continue searching for additional information and alternatives. If incoming information is expected, if it is compatible with a well-known and well-established image, the search process is not likely to continue. The more strongly established the belief structure, the less the search for additional information.

24. Cognitive mapping, a technique which graphically represents the causal arguments of decisionmakers to predict their choices, uses the two concepts of consistency and centrality to select the strongest causal path. See Axelrod, 1976 and Shapiro and Bonham, 1973.

25. Gergen (1968) argues that individuals do not have a consistent unitary self-concept and that inconsistency rather than consistency is the natural state.

26. Bem and Allen (1974) suggest, for example, that some of the difficulty in finding consistency between personality traits and behavior derives from the nomothetic assumptions of the research. Idiographic assumptions, on the other hand, would not assume shared definitions by investigators and subjects. If the subject establishes the criteria of consistency, then a concept of cross-situational consistency becomes relevant. This argument is fully compatible, of course, with a phenomenological interpretation.

27. McGuire (1966) suggests that at best the search for consistency is one motive among others, similar to the desire for affiliation or achievement. Others suspect that the drive to reduce inconsistency is of a second order and is activated only when inconsistency frustrates another motive force. Cognitive psychologists also are unsure of the dynamics of consistency-maintenance. Some assume a multiplicative process of balance -- the enemy of an enemy is a friend -- while others suggest that the process may be additive -- the enemy of an enemy is the object of even greater disaffection than the enemy. Freedman and Sears (1965), in related research on attitude change, find that such factors as the utility of a message, its topical interest and novelty, and its persuasiveness can offset a bias toward selectivity.

offer different explanations of the cognitive processes that produce these errors in judgment. While most insist that decisionmakers are too conservative in revising their estimates (Edwards, 1968 and Peterson and Beach, 1967), other evidence suggests that decisionmakers may pay too little attention to baseline information and that they revise their judgments too radically (Ross, 1977 and Bar-Hillel, 1977).[28] Analysts do not agree on whether decisionmakers give too much or too little weight to central beliefs when interpreting new information.[29]

If psychologists cannot agree on the direction of errors, it is not surprising that they debate their causes. Some explain faulty judgments on largely technical grounds, others refer to a variety of more fundamental cognitive processes, and still others investigate the nature of the task or the content of organizing concepts. Faulty estimates, for example, may result from an inability to handle several indicators simultaneously (Schroder, Driver, and Streufert, 1967:127). If individuals are limited in their intuitive statistical methodology, if they are poorly equipped to think in probabilistic terms, then both extreme and conservative judgments are understandable (Slovic and Lichtenstein, 1971).

The use of different kinds of cognitive processes also may explain different kinds of errors in estimation and revision. A large body of evidence suggests, for example, that people tend to estimate the probability of an event by the number of such instances they can retrieve from memory; the more "available" the relevant analogy, the more likely the event (Tversky and Kahneman, 1973). Individuals also tend to overestimate the likelihood of an event when they consider it to be representative of an underlying process (Kahneman and Tversky, 1972, 1973; Nisbitt and Borgida, 1975; and Bar-Hillel, 1974). Reliance on such "heuristics" as availability and representativeness may explain inadequate or exaggerated estimates of the probability of events.

Overly conservative judgments may come from commitment to a central organizing assumption and a related search for consistency. Once decisionmakers become strongly committed to a central concept, revision becomes much less likely (Whaley, 1975:8; Alker and Hermann, 1971; Chapman and Chapman, 1967, 1969; cf., Ross, 1977). Consequently, decisionmakers are more receptive to information which arrives early in the decision-making process. Information which is processed before initial

28. Nisbitt and Borgida (1975) suggest that evidence of the weak effect of base rate information on category prediction is analogous to the weak effect of consensus information on attributional judgments. See also McArthur, 1972.

29. Part of the difficulty in establishing whether decisionmakers are overly or insufficiently conservative lies in the criterion of judgment. Optimal estimates are usually established by reference to "objective" probability theory, and individual performance is then compared. When "true" probabilities are unknown, however, assessment is much more difficult. Political decisionmakers, moreover, may be quite willing to increase their average error if it helps them to predict the few really deviant cases.

estimates have been formalized is more likely to produce revision than information which arrives after estimates have been made.[30] Once an assumption is accepted, inertia predominates, and the bias is in favor of standing estimates (Tversky and Kahneman, 1974).[31] The stronger the commitment, the more information needed to revise the estimate in comparison with the data that were required to adopt the opinion initially. As in search, earlier units of information are more important than subsequent units in the revision of estimates.

Conservative revision also may result from the attempt to preserve the consistency of belief structures once they have been established. When new information is consistent with prevailing beliefs, no revision is required. Ambiguity in information, a characteristic of the data most political leaders receive, appears to have less impact than does commitment to a central assumption. When information is discrepant, however, individuals frequently struggle to reduce the impact of the information through a variety of well-known techniques of inconsistency-management.[32] If the data are only mildly discrepant, decisionmakers usually resist revision of assumptions. If the information is so challenging that this is impossible, then policymakers will first discredit or dismiss the source or deny the validity of the information, then alter their least important beliefs through such techniques as differentiation or transcendence, and, only as a last resort, substantially modify basic beliefs.

The rate at which inconsistent information is received also affects the updating of estimates. When data come in gradually, coping mechanisms are more likely to be effective in permitting only incremental adjustments. Indeed, leaders anticipate some discrepant information, and its arrival reinforces prevailing assumptions (Slovic and Lichtenstein, 1971:705 and

30. Alker and Hermann (1971) suggest that the assumption that subsequent estimates are independent of earlier estimates is not supported by experimental evidence. Information appears to impact on prior estimates at a decreasing rate.

31. Jervis (1976:143, 154) suggests that, in the earlier phases of information-processing, decisionmakers are more likely to experiment with different interpretations of incoming data. Once an assumption is accepted, however, they tend to integrate new information into their prevailing estimates. This does not necessarily constitute an irrational process of revision, Jervis argues, and is indeed characteristic of most scientific investigators. If all states of the world were equally probable or the data completely unambiguous, such a process would be distorting. The data generally do permit multiple interpretations, however, and can only be interpreted through theory developed from previous cases. The influence of expectations on estimates, certainly at early stages in a decisional process, is "rational" and essential to the logic of scientific inquiry. The critical issue is, of course, the boundary between rational and irrational commitment to organizing concepts.

32. Cognitive techniques of inconsistency-management are treated extensively in the literature. For a discussion of these techniques as they are applied to international decision-making, see particularly Bonham, Trumble, and Shapiro, 1976; Coelho, Hamburg, and Adams, 1974; de Rivera, 1968; George, 1975; Holsti and George, 1975; Jervis, 1968, 1970, 1976; Lazarus, 1966; McGuire, 1966; Snyder and Diesing, 1977; and Steinbruner, 1974. Those who emphasize inconsistency-management give considerable weight to cognitive processes of consistency-seeking and consequently to conservatism as a central bias.

Jervis, 1976:125). Most policymakers are too sophisticated to expect only supportive information. Information which challenges firmly held expectations must adhere to higher standards of evidence, therefore, than data which support prevailing assumptions. Decisionmakers frequently use a double standard to assess consistent and discrepant information. If discrepant information arrives in large amounts rather than marginal increments, is of high quality, and is difficult to ignore, discount, or transcend, then, *force majeure*, significant revision of central assumptions is likely.

Processes of revision also may be affected by the cognitive content of central concepts. Beliefs vary in the amount and kind of information necessary for disconfirmation, and some may not be subject to disconfirmation except after the fact. Decisionmakers who assume that deterrence is succeeding, for example, can be convinced of its failure only after it has failed. The conclusion that the other side is bluffing can be rejected only when the challenger attacks (George and Smoke, 1974). Revision occurs too late to be of any use to decisionmakers. Because the content of concepts differs in sensitivity to discrepant information, regardless of the processes people use, some concepts are more easily revised than others.

Those who document conservative bias in judgment expect revision to oscillate much more sharply than do cybernetic explanations of the updating of estimates.[33] Impaired cognitive processes depress revision in the earlier stages but permit far-reaching changes in the later stages. Responding to highly discrepant data, people update dramatically to anticipate exact outcomes. As expectations are invalidated, they resort to categorical rather than probabilistic judgments. Evidence of conservative and radical judgments also may be explained by the nature of the problems people confront. Cognitive psychologists suspect that individuals use different processes for different tasks. Indeed, it is difficult to know which one will be applied in any specific instance. There is as yet no general explanation of judgment (Slovic, Fischoff, and Lichtenstein, 1977:6-7).

There is somewhat less controversy about the evaluative phases of the decision-making process. Consideration of options is subject to systematic bias as people attempt to avoid painful and complicated value trade-offs. Through cognitive mechanisms, they evaluate options by separating rather

33. Sharp upward revision of estimates does not necessarily indicate cognitive processing. Such shifts can indicate an analytic response to highly diagnostic data and cannot be used, therefore, as evidence to infer either process of choice. The cognitive explanation does suggest, however, that revision is unlikely to be gradual throughout the processing of discrepant information. At a certain threshold, sharp oscillation is predicted. The cybernetic explanation excludes sharp revision and predicts incremental adjustment. An analytic process, which responds to the diagnositicity of new information, may be gradual or rapid. The rate of revision does not discriminate, therefore, between analytic procedures and either of the other two processes.

than integrating incommensurate values. They do so by considering values in sequence rather than simultaneously as the analytic explanation suggests. In the most extreme process of simplification, leaders set up single-value decisional problems to avoid painful value conflict (Jervis, 1968; Snyder and Diesing, 1977; Steinbruner, 1974:105; and J. Snyder, 1978).

Once they have evaluated options along the most salient dimensions of value, leaders may "bolster" support for their preferred policy option (Jervis, 1976:142). Bolstering is a process of magnifying the gains of a preferred alternative and minimizing its costs; similarly, the expected gains of a less preferred alternative are downgraded and their expected costs magnified.[34] When policymakers consider that an option contributes to one important value, they are likely to hold that it simultaneously contributes to several other values. They may also use inferences of transformation or impossibility to increase support for their preferred alternative (Steinbruner, 1974:116-117). By arguing that an option is impossible, leaders categorically exclude that alternative from consideration. Such a process of evaluation simplifies choice; the preferred option appears to entail few costs.[35]

Unlike analytic concepts, cognitive explanations do not assume that processes of evaluation and revision are independent. There is competing evidence, however, on the consequences of the interaction of expectations and preferences. One body of evidence suggests that decisionmakers underestimate the likelihood of undesirable consequences and overestimate the likelihood of valued outcomes. This process of overestimation of desired outcomes is one of "wishful thinking." On the other hand, individuals avoid extreme probability estimates and consequently tend to underestimate the likelihood of highly desirable consequences which are very probable.[36] Even though the evidence does

34. The counterpart to bolstering in the predecisional stage is dissonance reduction in the postdecisional stage. After an alternative has been chosen, decisionmakers rearrange their beliefs to increase support for their chosen option and reduce support for the rejected alternatives. Dissonance theorists term this process one of "spreading the alternatives." See Festinger, 1957, 1964; Deutsch, Krauss, and Rosenau, 1962:83. For an application to international decision-making, see Shlaim and Tanter, 1978; Steinbruner, 1974:315; and Snyder, 1978.

35. The separation of values and the bolstering of alternatives are most likely when values are vague or ill-defined; when they are difficult to measure in monetary equivalents; when the consequences of action are difficult to predict and uncertainty is high; when values are deeply held; and when all options are costly (Jervis, 1976:130, 146). Value integration is least likely when value complexity is easy to avoid or painful to contemplate. When decisionmakers evaluate options under stress, the likelihood of value integration is further reduced (Holsti and George, 1975; Janis and Mann, 1977).

36. Pruitt and Hoge (1965) find that incentives decreased but did not remove the tendency among subjects to overguess the occurrence of desired outcomes. Jervis (1976:356-381) reviews a considerable body of evidence which questions the pervasiveness of wishful thinking as a cognitive process. He notes, however, that decisionmakers rarely differ about the value of an objective without simultaneously disagreeing about the probability that it can be achieved.

not support the pervasiveness of wishful thinking, it does affirm the interaction of probability and value dimensions in the evaluation of the consequences of alternatives.

Finally, while the analytic explanation establishes a decision rule of optimizing and the cybernetic paradigm posits a decision strategy of satisficing, cognitive explanations establish no single decision mechanism. They provide no unique solutions to decisional problems; on the contrary, a wide range of decision rules is possible. Policymakers may eliminate unfavorable possibilities along the most salient dimensions of value (Tversky, 1972 and Wissel, 1971). If more than one alternative remains, leaders may follow a lexicographic decision strategy in which they choose the option which best discriminates among rank-ordered dimensions of value (Shapiro and Bonham, 1973).[37] Or, decisionmakers may choose by analogy and select that option which has the strongest support within their structure of beliefs.[38] Finally, they may simply avoid or postpone decisions if choice is too difficult to make. The cognitive paradigm, therefore, suggests a number of admissible strategies rather than a unique mechanism of choice.

This absence of specified decision strategies weakens the power of cognitive explanations. Psychologists suspect that the inability to specify unique processes is a function of the variety of cognitive processes that operate at different times under different circumstances. Attribution research suggests, for example, that the use of different causal schemata at different times for different problems may explain many of the obvious departures from the predictions of single models such as balance or consistency (Kelley, 1973). Or, the context of the decision problem may evoke one of a series of possible cognitive techniques (Janis and Mann, 1977). Cognitive capacities are so complex and repertoires so multidimensional that they cannot be explained adequately by a single dynamic. Different cognitive processes, moreover, are not linked explicitly to different decision rules. It is difficult to know why and when, or under what

37. The general use of the term "bounded rationality" to characterize all non-analytic decision rules obscures important differences among them. Decision by elimination, lexicographic calculus, and satisficing all fall under the rubric of bounded rationality, but imply significantly different procedures and consequences. Leaders who satisfice choose the first satisfactory alternative which meets minimum aspiration levels along one or more dimensions of value. In lexicographic calculation, individuals choose the alternative which best discriminates among rank-ordered values. Satisficers choose by considering more than one value but only one alternative at a time, while lexicographers choose by considering only one value but all remaining alternatives. The difference frequently is of considerable importance in international politics.

38. Decision rules by analogy are specific to time and place. Holsti and George (1975:299, n. 41) suggest that some American officials used the following decision rule in developing policy for Latin America in the 1960s: "In fluid situations of uncertainty in which there is some risk of the emergence of another Castro in the Caribbean, take whatever actions are necessary to prevent it."

circumstances, decisionmakers use a particular strategy.[39] Cognitive explanations suggest only the very general rule that decisionmakers who are impaired choose the option which is generated by limited search, reinforced by categorical estimation, and bolstered by the reduction of value complexity. Within these parameters, decisionmakers have considerable latitude in their mechanisms of choice.

This review of the three principal explanations of choice suggests that the outcome of a decision-making process is affected by the performance of earlier tasks in the process. The quality of the outcome depends in part on the procedures decisionmakers use to diagnose, search, estimate, and evaluate. The likelihood of analytic, cybernetic, or cognitive processes, however, is determined in part by small group dynamics and the stress that flows from situational factors. The context of choice affects the process and through it its outcome.

Small Group Dynamics

National security choices are not made by single decisionmakers only. Frequently they are the outcome of a collective rather than an individual process, and choices which are the product of a group may be quite different from what an aggregation of the preferences of individual members would suggest (Holsti and George, 1975:285). Although group dynamics can affect all phases of decision-making activity, their impact on the last of the five tasks—choice—has been the main focus of investigation. The effect of group factors on choice is a matter of some controversy, and this chapter reviews the two approaches of social psychology and bureaucratic politics or coalition-building. It examines these two explanations of choice and then turns to the discussion of the four earlier decision-making tasks.

Social psychologists debate the effect of group membership on the final choice the group makes and assess its divergence from the average preference of its individual members. The most frequently cited consequence of collective decision-making is the "risky shift" or the systematic revision in choice which results from group discussion or group decision-making (Vinokur and Burnstein, 1974). Early research found that group members shifted their individual choices to a riskier alternative after participating in group discussion (Stoner, 1961). This evidence challenged a standing hypothesis that group decisions tended to be more cautious than individual choice (Whyte, 1956). A series of follow-up studies designed to replicate the "risky shift" under controlled conditions concluded that

39. Janis and Mann (1977:132) suggest that anticipation that an action would be costly, accompanied by an expectation that a better solution is possible but that the time is inadequate to search, promotes defensive-avoidance. Decision-making under stress is discussed in the last section of this chapter.

group interaction produced a consensus on matters of risk and a willingness to make decisions which are riskier than would be made by individual decisionmakers (Wallach et al., 1962, 1965, 1967). Other investigators, using the standard instrument of risk-taking developed for this experimental research, found that different kinds of decision-making groups shifted toward risk (Rim, 1963; Jamieson, 1968; Kogan and Doise, 1969: Lamm and Kogan, 1970).[40]

A reexamination of some of the evidence suggested that choice may shift toward caution as well as toward risk after group discussion.[41] The risky shift appears to be part of a more general phenomenon of a group shift (Rabow and Pincus, 1971 and Pruitt, 1971a). Subsequent research documented a shift in both directions under different conditions. When potential losses were small, group risk-taking did exceed that of individuals. When potential losses and gains were high, groups were more cautious than their members (Zaleska, 1974). Discussion-induced shifts also occurred on several dimensions: on attitudinal issues (Doise, 1969; Gouge and Fraser, 1972); and on issues of fact or logic (Thomas and Fink, 1961, Hall, Mouton, and Blake, 1963; and Kelley and Thibault, 1969). Shifts in choice appear to respond to multiple dimensions (Stoner, 1968). Group processes produce a more general shift in choice rather than a shift only on the caution-risk dimension.[42]

Social psychologists have developed two kinds of explanation of the shift in choice.[43] Information-processing explanations emphasize relevant

40. The instrument developed by Wallach and his colleagues is the Choice Dilemma Questionaire (CDQ). Each dilemma contains two alternative courses of action, one of which is riskier insofar as it is less probable but more desirable, while the other alternative is more cautious in that it is less desirable but more probable. The subject is asked to specify the minimum probability of success on the risky alternative which would justify its choices, and this designated probability is considered to be the score. In most studies, subjects respond to the CDQ first as individuals, then as a group after discussion, and then again individually after the group meeting. Mean scores are used to calculate shifts.

41. Two items on the CDQ repeatedly produced a shift toward the more cautious alternative in experimental settings. Those who described the decisional outcome as a risky shift either used only total scores on the multi-item CDQ or eliminated these two items to improve the validity of the CDQ as a measure of risk-taking.

42. Some evidence suggested that the group shift may be epiphenomenal. One reanalysis of some of the experimental data found that most groups were not riskier, a substantial minority was more cautious, and the most frequent outcome was no shift at all (Belovicz and Finch, 1971). Using a different measure of risk and subjects with some political sophistication or experience, Semmel and Minix (1977) find that 26 groups in their experiment shifted to risk 54% of the time, to caution 44% of the time, and failed to shift only 2% of the time. In an attempt to discover whether the research instrument was biasing the results, the effects of group discussion were explored in a variety of experimental and nonexperimental situations (Myers and Lamm, 1976). The comparative investigation found considerable evidence of a shift toward risk and toward caution by different kinds of groups in different kinds of situations.

43. Earlier explanations have been rejected in subsequent research. The "familiarization" hypothesis suggested that familiarity with an issue involving risk will produce riskier choice (Bateson, 1966; Flanders and Thistlewaite, 1967); Miller and Dion (1970) largely disconfirmed the hypothesis. A second explanation suggested that those who are most

information and persuasive arguments. Affective explanations, the second type, include both diffusion of responsibility and the value of risk. The "diffusion of responsibility" hypothesis is well known: members of a group feel less responsible for the higher likelihood of failure because responsibility is shared among the group (Kogan and Wallach, 1967). Evidence drawn from risk-taking in international crises suggests that concurrence-seeking produces shared notions of invulnerability which lead to excessive risk-taking (Janis, 1972:197-204). This explanation is intuitively appealing because of its consistency with explanations of crowd behavior. However, the evidence does not support the contention that cohesive groups will produce a greater shift toward risk (Dion, Miller, and Magnan, 1971).

A related but stronger explanation is the "risk as value" hypothesis. If risk is highly valued within society, members of a group whose initial choices are less risky than the average will reformulate their views to maintain their perception of themselves as risky. The essential element in the group process is the exchange of information on members' risk preferences. It is not the content of group discussion which is important, but the opportunity to compare initial preferences (Brown, 1965:702; Wallach and Wing, 1968; and Willems, 1969). Such a hypothesis could explain cautious as well as risky shifts; if caution were highly valued, the same mechanism would operate to produce a shift toward a less risky choice. Although there is considerable support for this explanation, it appears that information about the choices of other group members is not sufficient to produce a shift (Wallach and Kogan, 1965; Pruitt and Teger, 1969). Other factors are necessary in an explanation of group shifts in choice.

Information-processing explanations emphasize the situation or task rather than the conditions under which problems are discussed. The "relevant information" hypothesis suggests that information relevant to the task must be exchanged during discussion. Contrary to earlier arguments, the content of the discussion and the arguments pro and con do constitute an essential factor if the change in choice is to occur (Madaras and Bem, 1968; Pruitt and Teger, 1969; and Silverthorne, 1971). Relevant

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inclined to choose a risky course of action also tend to be leaders within the group (Marquis, 1962). These interactive explanations focus on the social or leader-follower processes within the group. Further research did not support any relationship between initial risk-taking and perceived influence within the group (Kogan and Wallach, 1967; Wallach, Kogan, and Burt, 1967). A variant of this explanation, the "extremity" hypothesis, suggests that those members of the group who take the most extreme positions are also most confident and committed and are better able, therefore, to influence other members of the group (Burns, 1967, cited in Vinokur, 1971:239). This last hypothesis had better predictive capacity than the earlier explanations. Finally, some researchers suspect that the choice shifts are artifacts of the experimental design (Cartwright, 1971). The robustness of the shift in different experimental and non-experimental situations does not support this interpretation.

information may explain any additional shift that occurs after information about initial preferences has been exchanged (Pruitt, 1971b:504, 506).

A related explanation has drawn on analytic concepts to suggest that relevant arguments made in the context of group discussion produce changes in utility which, in turn, produce shifts in choice. Through exposure to new information and argumentation, decisionmakers reconsider their values and shift their choices in response to their revised calculations. Experimental evidence provides considerable support for explanations derived from premises of the analytic paradigm. Shifts in utility accompany shifts in risk preference, and exchange of information produces shifts by exposing group members to arguments they have not considered previously (Vinokur, 1971; Burnstein et al., 1971; and Burnstein, Vinokur, and Trope, 1973). Shifts toward risk or caution are the product of systematic revision in utility resulting from analytic decision-making processes (Vinokur and Burnstein, 1974:305).

If changes in group choice result from systematic revision in utility following group discussion, then shifts can occur when persuasive arguments are known only to some members of the group (Vinokur and Burnstein, 1974). If the relevant persuasive arguments are widely known, then group members are likely to have considered these arguments in making their initial choice. Subsequently, if arguments are repeated in discussion, they are not likely to induce members to alter their earlier preferences. However, when members hear new arguments which are persuasive, they are likely to revise their calculations and shift their preferences.

Further studies reinforce the importance of learning in producing group polarization. The nature of the expressed argument appears to be the most important factor in mediating the relationship between individual and group shifts. The direction and magnitude of the shift can be determined by the direction of the argument, or the alternative it favors, the persuasiveness of the argument, and the originality of the argument (Vinokur, Trope, and Burnstein, 1975; Myers and Lamm, 1976). Moreover, the magnitude of the shift is increased by active participation in group discussion rather than by passive listening.

These analyses of group processes are of interest to those who examine national security decision-making; such choices frequently are made within a group context. Inferences must be made with some care, however, because of the limited validity of some of the research results. The evidence is drawn almost exclusively from the examination of processes of problem-solving. Problem-solving experiments often present subjects with problems for which alternatives are given, probabilities are specified, and an optimal solution is possible. In most national security dilemmas, decisionmakers neither know all the relevant alternatives nor their

probable consequences. On the contrary, current concepts of decision-making emphasize the search for information, the construction of alternatives, and the generation and revision of probability estimates. Explanations drawn from problem-solving may not be transferable to a decisional environment of "structural uncertainty."

Second, the groups which were the object of the research bear little relationship to any decision-making group outside the laboratory; almost all have no history, no future, no established structure, and no significant enduring relationships with a surrounding social system (Cartwright, 1971.373).[44] Even more important, they bear little responsibility for the consequences of their collective choices. Differences in the decisional environment and the structure of groups limit the external validity of these research results.

Within these constraints, evidence from social psychology does appear to converge with that of cognitive psychology and studies of personality; all stress the importance of new information and persuasive argumentation in changing preferences and explaining choice. The emphasis on new information is fully consistent with concepts of dynamic learning that are increasingly important in each of these three fields. Group membership may increase the dynamism of these processes. As a member of a group rather than as an individual, a decisionmaker may be exposed more quickly and thoroughly to relevant new information and interpretation. Members may be exposed to arguments they otherwise might not hear. And learning within a group may be better than learning as an individual. By participating in rather than merely listening to discussion and debate, members become less passive and, through "cognitive rehearsal," increase the causal role of learning (Myers and Lamm, 1976).

Although social psychologists cannot predict with any precision the direction or magnitude of a change in choice, their research is relevant to the analyst of national security decision-making. They expect a group to do what most of its members would do, only more so, after discussion and debate of the issues. Examination of group problem-solving highlights not only group dynamics but also the problem the group confronts. The substance of the issues and the content of the debate are important in an explanation both of the individual decisionmaker who operates within a group and of any decision the group may make.

A second major interpretation of group choice is provided by coalition

44. The impact of the experimental milieu on the response of individuals is a matter of controversy among psychologists who study decision-making. Edwards (1975) argues that experimental designs deny subjects the necessary tools and therefore exaggerate intellectual limitations. Winkler and Murphy (1973) criticize the oversimplified and elaborate structure of experimental problems in comparison to real-life dilemmas. Social scientists who draw on psychological evidence can search for convergence in different decisional environments.

explanations and the weaker but related arguments of bureaucratic politics. Bureaucratic explanations suggest that preferences can best be explained by official positions and vested interests of organizational units: "where you stand depends on where you sit."[45] The preferences of members within a decision-making group are those strategies that would advance the interests of the organizations they represent. The explanatory power of bureaucratic politics is limited, however, both by empirical evidence and logical difficulty.

An examination of crisis decision-making in a variety of contexts finds bureaucratic politics a weak explantion of group decisions. First, official position was not a sufficient explanation of the preferences of individual decisionmakers within the group; beliefs and personal predispositions or bias were more important. Second, proponents of different alternatives, who inevitably represented different organizational units, developed their arguments from among available options. Their preferences reflected the constraints imposed by the international environment in which they worked as well as their individual biases. Bargaining positions cannot be explained solely as a function of agency interests; they were a response also to the dilemmas decisionmakers faced (Snyder and Diesing, 1977:359, 513). The inability of bureaucratic politics to explain adequately even initial preferences of participating decisionmakers may be a function of the crisis atmosphere in which policymakers worked. Organizational loyalties are likely to be much reduced when issues are important and unusual (Jervis, 1976:26).

Even more important, bureaucratic politics offers no explanation of how individual preferences determine a group's decision. While "where you sit" provides a partial explanation of the initial positions of decisionmakers, the analyst of decision-making cannot predict the outcome from knowledge of these initial preferences. Bureaucratic politics does not specify the relationship among the bargaining resources of principal participants, their strategies for producing a collective choice, and the decision the group ultimately makes. It leaves implicit the impact of members' skills and resources in determining a group decision.

Finally, in its attempt to explain a government decision, bureaucratic politics does not pay explicit attention to the political resources any individual member may bring to bear. Working largely within presidential systems, analysts concentrate on the weight of institutional position in determining the collective choice. In cabinet systems of collective responsibility, members frequently hold their portfolios because of their

45. See especially Allison, 1971 and Halperin, 1974 for an application of an argument of bureaucratic politics to foreign policy decision-making. For an earlier examination of pulling and hauling in domestic politics, see Neustadt, 1960 and Truman, 1962.

political weight in party forums. Particularly when cabinets are coalitions which operate within multi-party systems, the impact of the independent political constituencies of members of the government is likely to be as important as their institutional base. Both political and positional strength must be included in an explanation of the collective choice.

Coalition-building, a related yet distinct explanation, specifies the relationship between individual strength and group decision with greater rigor.[46] Decision-making becomes a process of building a majority coalition to support one alternative. A collective decision is the result of persuading at least a majority of participating decisionmakers to support one option. Persuasion is not limited to argumentation, as social psychologists would suggest, but includes appropriate payments to convince a large enough number of members to join the coalition. Different problems require different strategies by coalition builders. When initial preferences converge, for example, some group members are natural allies. Payments by a powerful coalition builder may include sacrifice of inessential but objectionable components of a policy option or acceptance of innocuous components from a prospective coalition member. When the central coalition builder is weaker, payments may extend to the sacrifice of important components of a strategy or its expansion to accommodate the arguments of a prospective coalition member. The coalition builder may, of course, also offer side-payments on related issues while trying to preserve the integrity of the policy option.[47]

In the most rigorous formulation, coalition explanations specify precisely the number of members that are necessary to produce a "minimum winning coalition." Such a coalition includes enough members to control the final voting but few enough so that the coalition builders and their close allies can dominate the coalition (Riker, 1962). A rational coalition builder knows just when to stop. Generally, the largest payments go to those last hold-outs whose participation assures such a minimum coalition. If decisionmakers are rational, coalition theory both predicts the size of the winning coalition and explains the changes in individual preferences that are necessary to produce the group's decision.

While a "minimum winning coalition" may be an appropriate normative standard—and even this is open to some debate[48]—it is not likely to explain

46. Snyder argues that it is coalition-formation rather than bureaucratic politics which explains crisis decisions. See Snyder and Diesing, 1977:407-408, note 33.

47 Snyder and Diesing (1977:349) list the following as examples of side-payments: strategy revision to incorporate the problem definition of a prospective member; inclusion of a member's favored tactic as a preliminary move or fallback position to induce joining; and according a potential member an important role in implementing the group's decision.

48. Building a larger consensus for a major decision may, under certain circumstances, be considerably more important than preserving control of a winning coalition. Downs (1957) suggests, for example, that coalition leaders exceed the minimum in situations of uncertainty.

the processes decisionmakers use to build support for their preferred policy option. Just as analytic assumptions must be relaxed somewhat if they are to provide an explanation of individual decision-making, so a concept of rationality within a group must be made more flexible. Decisionmakers are more likely to construct a majority rather than a minimum winning coalition. A majority coalition is that part of the decision-making group which can carry out a decision without the help of remaining members and, if necessary, against their active opposition. Regardless of numbers, it must include those members whose support is essential to the implementation of any decision the group may make. In national security decision-making, for example, a coalition which excludes a president or prime minister, or a defense minister, is not likely to be effective, regardless of other support it can marshal. Very often, a head of government, with only one vote and often formally *primus inter pares*, single-handedly constitutes a blocking coalition. No decision is possible without prime ministerial or presidential support. The concept of a majority coalition which includes essential members reflects the unequal political weight of different members of a decision-making group; it is attuned to political realities.

The two principal explanations of group choice focus on the content of debate and the construction of coalitions. Those who pay attention to debate emphasize intellectual processes while those who examine coalition stress interaction and bargaining; the first focuses on cognition and information-processing and the second on consideration of interest. Both assume considerable receptivity to new information and recalculation of consequences. Both are incompatible with cybernetic explanations and would have difficulty accommodating some of the evidence of impaired procedures generated by studies of individual cognitive processes. Neither explanation emphasizes pathologies in the decision-making process. From very different perspectives, social psychologists and bargaining theorists both expect a high level of performance by decisionmakers in a group.

Social psychologists and observers of bureaucratic politics are less comfortable with this rather optimistic portrait of decisionmakers when they discuss performance of the earlier decisional tasks—diagnosis, search, revision, and evaluation. The impact of the cohesion of a group on these four tasks has received considerable attention. Analysts consider group cohesion among the most important determinants of the quality of a collective process of decision. Group cohesion may promote effective problem-solving by reducing the influence of parochial and vested interests. Members of a cohesive group with properly defined roles, traditions, and standard operating procedures may search, revise, and evaluate more thoroughly than an individual working on a problem alone. Working within a group, members also may be better able to perform some of the complex tasks of information-processing which require division of

labor (Janis, 1972: 13 and George, 1975: 285). Recall of previously acquired information, for example, is facilitated by the presence of others (Zajonc, 1965; Collins and Guetzkow, 1964). In a cohesive group, individuals may intensify their search for information (Kirk, 1975) and generate a greater number of alternatives than they would working alone (Maier, 1970).

Group cohesion may have negative as well as positive consequences, however, for decision-making processes. A cohesive group may promote "groupthink" which severely constrains processes of search for information and policy options. Concurrence-seeking supersedes the search for additional information; members may make little or no effort to obtain information from experts and frequently restrict their search to only one or two alternatives (Janis, 1972:9; Feldman and Kanter, 1965:622). When disagreements threaten to reduce group cohesion, the breadth and quality of search is more likely to be limited (Holsti and George, 1975:290). An argument of bureaucratic politics puts the case even more strongly: organizational interests structure and limit the search for options and information (Allison and Halperin, 1972). Only those alternatives that are in the interest of one or the other participating bureaucracies will be brought to the attention of the group or the central decisionmaker. Selectivity rather than search is routine bureaucratic practice. Both social psychologists and proponents of bureaucratic politics expect the same consequence—constrained search—from the opposite causes of group consensus and bureaucratic rivalry

The evidence of the impact of group cohesion on revision of estimates is less contradictory than its impact on search. Concurrence-seeking or "groupthink" produces a selective bias in receptivity to new information; members ignore or discount information that does not support the preferred option. Receptivity to discrepant information may be viewed by members as a breach of group solidarity (Janis, 1972:9, 12). The decline in receptivity to discrepant information is accompanied by pressures for rapid closure (Maier, 1970:433-435). Bureaucratic interest similarly would depress the impact of discrepant information. If members of a cohesive group are committed to open-ended scrutiny of new evidence, however, they may revise estimates more efficiently than an individual decision-maker (Janis, 1972:118). Only a commitment to methodical procedures overrides biases in search and revision.[49]

Most analysts consider that group cohesion is likely to reduce the effectiveness of the evaluation of alternatives. Once a preferred option is identified or proposed by a strong group leader, other alternatives are likely to receive diminished attention and scrutiny (Janis, 1971:44, 75). Those

49. An argument that a commitment to methodical search and appraisal is a good explanation of methodical search and appraisal is not entirely convincing. See Janis and Mann, 1977:131-133, for a discussion of the antecedent conditions of "groupthink."

alternatives which are unacceptable to the majority of the group are unlikely to receive serious consideration, and members may make little or no effort to obtain expert estimates of losses and gains of the consequences of alternative courses of action. Experimental evidence suggests that a reduction of intergroup conflict reduces the effective evaluation of alternatives and the number of options that are considered (Bower, 1965:275,277 and Kirk, 1975:9). Here the arguments of social psychologists and observers of bureaucratic politics converge. Even though each representative may bolster a preferred option, the clash of interests promotes some comparative consideration of alternatives. The right thing is done for the wrong reasons. Once consensus is achieved, however, other options stand little chance of gaining acceptance (Maier, 1970:433–435). Groupthink increases the likelihood of bolstering; members are more likely to discount the costs of the preferred option. The more actively the leader of the group promotes a preferred alternative, the more likely bolstering will constrain the process of evaluation (Janis, 1972:197). Some evidence does suggest, however, that members of a group perform better than individuals working alone. Cohesive groups with appropriate norms and and Guetzkow, 1964:54).

Research on the performance by members of small groups of the tasks of diagnosis, search, revision, and evaluation is inconclusive.[50] Group members may be better able to perform these complex tasks than individuals working alone. Cohesive groups with appropriate norms and practices may improve dramatically the quality of the decision-making process. If group cohesion leads to concurrence-seeking, however, the constrained search, revision, and evaluation which are characteristic of the cognitive processing of choice are likely to result. Groupthink is defensive-avoidance and bolstering writ large (Janis and Mann, 1977:133). The absence of cohesion, however, may constrain decison-making by reinforcing bureaucratic politics and parochial analysis. Members of a group with low cohesion also may seek concurrence because they fear the cost of failure (Janis, 1972:192). The explanatory power of the concept of group cohesion remains unclear: groups with low or high cohesion may promote concurrence-seeking; high cohesion may promote effective or defective decision-making among its members; and the same group may or may not seek concurrence at different times under different circumstances.

Underlying contradictory argument and evidence are competing concepts of decisionmakers and their capacities at different stages in the decision-making process. Explanations of group choice emphasize

50. Research on small group performance is extensive and well beyond the scope of this study. Particular attention is paid here to evidence related to decisional tasks. For useful reviews of research findings, see Hare, 1962, 1972; Hoffman, 1965; and Hackman and Morris, 1975.

learning and rational bargaining. One important explanation within social psychology draws explicitly on analytic assumptions to explain shifts induced by group membership, while others expect, at a minimum, considerable learning and recalculation by members of a group in response to new information and persuasive argumentation. Social psychologists place greater emphasis on pathology, however, when they turn their attention to the four earlier decisional tasks. It is not obvious why social psychology expects decisionmakers to be less analytic when they search and revise than when they choose. The premises of bureaucratic politics are more consistent than those of social psychology: the rational pursuit of organizational interest by bureaucratic players distorts search and evaluative activity. The same competence and analytic capacity which permits decisionmakers to construct winning coalitions also explains selective search and biased evaluation.

Confronted by competing models, contradictory argument, and inconsistent evidence, the reader may be forgiven some confusion. In an attempt to explain some of these contradictions, analysts suggest that variations in performance may be explained by the structure of a group and by situational factors. Groups where members are relatively independent both of their leader and of any organization they may head are most likely to use analytic processes and make innovative decisions, whereas groups whose members are representatives of or responsible to constituent organizations will suffer the vicissitudes of bureaucratic politics and incremental conservatism (Hermann, 1978). Structural factors cannot explain, however, why the same group uses effective and defective decision-making processes at different times. A more powerful explanation may lie in the impact of situational factors. External threat, for example, when experienced as common fate, increases group cohesion. Group cohesion may have a higher explanatory value, then, for crisis than for non-crisis situations (Holsti and George, 1975:289 and Kirk, 1975:21).

Crisis

Analysts of foreign policy decision-making have paid particular attention to the situation of crisis.[51] The core element in a crisis situation is a perception by decisionmakers of a threat to basic values. In national

51. Because the impact of international crises on decision-making has been examined extensively, it receives less attention here than other factors which may affect choice. Research is of high quality and is frequently cumulative. Of particular note are studies by Brady, 1975; Brecher, 1977, 1978, 1979; George, Hall, and Simons, 1971; Hermann, 1969, 1972; Holsti, 1972a, 1972b; Janis, 1959, 1972; Milburn, 1972; North et al., 1963; Paige, 1972; Robinson, 1969, 1972; Robinson, Hermann, and Hermann, 1969; Snyder, 1972; Snyder and Paige, 1961; Young, 1968; Zinnes, 1968; and Zinnes, Zinnes, and McClure, 1972. McClelland (1968, 1972) has examined the impact of crisis from the perspective of the system as a whole rather than that of the decisionmaker. For a review of the use of the concept of crisis across the social sciences and an examination of the recent literature, see Tanter, 1975 and 1978.

security crises, a threat to basic values generally implies an increase in the probability of violence (Brecher, 1977; Morgan, 1977:168; and Snyder and Diesing, 1977:492). A sense of threat and a perception of probable violence create considerable stress for decisionmakers. There is some debate about time as a component of crisis and as stress-creating. Some consider time pressure to respond a critical component (Janis and Mann, 1977:78); others argue that limited or finite rather than short time is a necessary component of crisis (Brecher, 1977); and still others insist that time pressure is neither necessary to crisis nor necessarily stress-creating (Snyder and Diesing, 1977:492).[52] Common to almost all definitions of crisis, however, is an emphasis on the stress created by the necessity to make important and often difficult choices in a threatening environment.

Although analysts agree that crisis-induced stress is likely to affect decision-making processes, they disagree on the direction of this effect. While some suggest that stress precludes analytic processing, others argue that, in a crisis, decisionmakers are freed from routine constraints and are better able to use analytic procedures. Indeed, in an acute crisis, decisionmakers may "shift toward rationality" (cf., Holsti and George, 1975:262 and Morgan, 1977:179). There is little consensus on the impact of heightened perceptions of threat and limited time on the performance of each of the five decisional tasks.

Those who study the impact of crisis-induced stress on decision-making generally are little concerned with the task of problem diagnosis. Once leaders perceive a serious threat and finite time to respond, they have identified a problem for decision.[53] Acknowledgment of crisis constitutes problem diagnosis, and most studies of crisis begin by examining the impact of stress on search. The evidence suggests both a decrease and an increase in search activity when leaders are under stress. In high threat–short time situations, decisionmakers may reduce their search for policy options, and they also are less resistant to premature closure (Hermann, 1972:207; Holsti, 1972a:14-17, 119-142; Janis and Mann,

52. Morgan (1977) and Snyder and Diesing (1977) suggest that a threat to basic values alone may be sufficient. Morgan distinguishes those crises that arise and culminate suddenly from those that build gradually over a long period of time. Only the former, the "acute" crises, include a perception of limited time for response. Snyder and Diesing, drawing on evidence from their comparative examination of crisis decision-making, reject short decision time as a defining characteristic of crisis. The pathological patterns of decision-making, predicted by time pressure, were found even when decision time extended over weeks and months. In one of the two cases where decision time was shortest, moreover, the expected consequences did not appear. Snyder and Diesing conclude that time pressure does not appear to be a major source of stress in international crisis decision-making. Their argument and evidence run directly counter to that of Janis and Mann (1977), who consider decisionmakers' perception of insufficient time a principal source of stress and pathological behavior.

53. Janis and Mann (1977:107-115) suggest that acute stress may encourage decision-makers to avoid recognition of a problem through defensive-avoidance. In certain circumstances, they imply, stress may decrease leaders' capacity for problem diagnosis.

1977:78). Organizational theorists suggest, however, that search for information under crisis conditions may be more extensive, even if less efficient and productive (March and Simon, 1958:116). Decisionmakers are also more likely to search past the first "satisficing" alternative (Gawthrop, 1969:85, 87, 94, 125, and Wilensky, 1967:78). The impact of crisis on search activity remains a matter of some dispute.

There is consensus that crisis may increase the conservative revision of estimates. The effect of cognitive constraints on the processing of information may increase when decisionmakers must consider new information under stress. They are likely to pay attention to fewer cues and to be less discriminating (Holsti and George, 1975:284, 279). Decisionmakers are also more likely to accept a single hypothesis to organize and interpret information and increase resistance to discrepant information. For decisionmakers handling information before the outbreak of World War I, for example, the pressure of time became an increasingly salient factor (Holsti, 1972a:200). Perceptions of threat and limited time appear to depress revision of estimates and increase cognitive constraints on the processing of information.

The evidence is not consistent, however, on the impact of crisis on the evaluation of alternatives. Some studies suggest that the intensity of the crisis is inversely related to the number of alternatives considered (Robinson, 1972:23, 273, 274; Paige, 1972:52; Milburn, 1972). In a simulation of crisis, however, decisionmakers considered a larger number of alternatives than they did in low threat–extended time situations (Hermann, 1969:168). They may do so in part because the situation is better defined in time and space; their perceptions of threat and finite time structure the policy environment. In a crisis situation, moreover, decisionmakers may have a stronger incentive to consider a broad range of options (Morgan, 1977:178 and Hermann, 1972:298, n. 6).

Crisis may affect not only the number of alternatives considered but the quality of the evaluative process. A great deal of evidence suggests that crisis-induced stress decreases ability to identify a range of consequences, especially for those options that are preferred. As stress increases, attention focuses increasingly on immediate rather than long-range consequences (Holsti, 1972a:200). Decisionmakers also tend to overestimate the benefit of preferred alternatives and underestimate the cost of those they favor (Milburn, 1972:273). Under stress, decisionmakers may fail to recognize value conflict at all. Should they recognize the conflict, moreover, this acknowledgment would further increase the level of stress and consequently reduce resistance to premature termination of the evaluative process (Janis and Mann, 1977:47-50). Decisionmakers then may substitute bolstering for other processes of evaluation and persuade themselves that

one alternative will satisfy, if not maximize, all the relevant values (Holsti and George, 1975:282).

Those who study the behavior of decisionmakers within organizations, however, suggest that decisionmakers under stress may use improved analytic skills to evaluate policy options. The quality of evaluation also may be improved by the access of the decision-making unit to expert advice and opinion. The scope of the values at stake may lead decisionmakers to demand refined estimates; they may be more sensitive to error and more careful in their costing. The evidence, therefore, is not all in one direction.

Analysts of crisis decision-making are unable to specify precisely the decision rules which policymakers are likely to use to choose among policy options. Policymakers may use the best-known or most accessible decision strategy; they may choose by analogy to earlier situations of crisis (Kilpatrick, 1969 and Milburn, 1972:274). In so doing, decisionmakers would be using cognitive procedures for choice. Within an organization, however, decisionmakers are less likely to resort to routine procedures of satisficing and more likely to consider general values and apply superordinate decision rules (Janis, 1972; Holsti and George, 1975:299, n. 41). Broad-gauge decision strategies may replace narrower procedures when decisionmakers perceive increased threat to important values.

Research on the impact of crisis on decision-making suggests considerable variation in the performance of decisional tasks. There is no clear pattern: crisis-induced stress may promote or reduce the likelihood of analytic processing. A number of plausible explanations of the contradictory evidence are possible. First, crisis may have no systematic impact on decisional performance; any relationship may be spurious. Such a hypothesis is inconsistent with a large body of evidence drawn from biological and psychological studies of human behavior under stress (Appley and Trumball, 1967; Broadbent, 1971; Suedfeld and Tetlock, 1977; Janis and Mann, 1977).

Second, the level of threat perception and time pressure may explain differences in the processing of choice. The relationship between perceptions of threat, time pressure, and decision-making may be curvilinear rather than linear. Moderate time pressure, for example, promotes analytic performance while intense pressure constrains careful search and complex evaluation (Ray, 1965:234 and Pepinsky, Pepinsky, and Paulik, 1960:38). Since decision time is not synonymous with clock time but varies with task complexity, the performance of decision tasks may decrease after a certain threshold in time pressure because of the disproportionately lower levels of information used in short decision-time situations (Tanter, 1975:86). Consistent with these findings, psychological evidence suggests that moderate levels of anxiety promote effective performance, while high or low levels decrease the efficiency of task

completion. If decisionmakers perceive moderate threat and time pressure, they may have both the incentive and the capacity to use analytic processes. This hypothesis would be consistent with studies of organizational decision-making which suggest that crisis may break through routine inertia and promote more effective decision-making procedures.

Third, the impact of crisis on decision-making may vary if it is accompanied by a changed perception of other situational factors. Although surprise is not an essential component of crisis, it often accompanies perceptions of threat and time pressure. In a national security crisis, surprise refers to the perception by decisionmakers that they have miscalculated or misperceived the intent of their adversary.[54] If decisionmakers are surprised when their perception of threat and time pressure is low, they may be provoked to initiate analytic processes of search, evaluation, and choice. If they acknowledge miscalculation when threat and time pressure are high, however, an analytic process is less likely. Covariance of surprise with crisis-induced stress may explain some of the variation in decision-making procedures.[55]

Finally, crisis-induced stress may interact with the group context of

54. When policymakers miscalculate rather than misperceive, surprise is less intense. They may miscalculate the importance of particular information, for example, and marginally revise their estimate of the likelihood of an event. When the event occurs, decisionmakers will be surprised. They may never have considered the possibility that the event may occur, however, and consequently develop no base estimate of probability. Should the event occur, their misperception rather than miscalculation of adversary intent would produce a more intense level of surprise. Linguists and mathematicians are only now beginning to formalize the distinction between probability and possibility theory. See Zadeh, 1978 and Gaines and Kohout, 1977. This distinction corresponds to that between miscalculation and misperception.

55. The relationship of surprise to the two dimensions of crisis is a matter of controversy. Brady (1974:3, 258), in a study of crisis behavior through event interaction data, finds no significant interaction effects between threat, time, and surprise. Hermann (1969:202-203), in a simulation of crisis decision-making, finds that decision-making varies with perceived changes in the amount of threat in combination with the amount of time or the amount of surprise. The inconsistency in results may be a function in part of the different measures of both the independent and dependent variables. Janis and Mann (1977:76-80), in their examination of the impact of stress on decision-making behavior, suggest indirectly that surprise which accompanies high threat and short time would constrain choice. They argue that, if a decisionmaker perceives serious risk and sufficient time to search for a solution that is better than currently available alternatives, a high quality decision-making process is likely. If they perceive insufficient time and serious risk, panic and confusion are the likely result.

Even if surprise does interact with the other two kinds of perceptions, McCormick (1975:14, 16) questions whether surprise can be operationalized. He argues that surprise does not increase or decrease during a crisis but normally occurs only once. Here McCormick is treating surprise as a dichotomous variable; it is present or absent. When surprise is coded dichotomously, its capacity to explain variation over time in decision-making processes is limited. Surprise can be considered, however, as an interval variable. For heuristic purposes, intensity of surprise can be considered as the size of the gap between the estimated probability of an event and unity, or its occurrence. If decisionmakers estimate a moderate probability of attack, for example, and the attack occurs, the intensity of surprise can be considered as the difference between estimates of sixty percent and unity. Here policymakers miscalculated. If, however, they never considered the contingency of an attack, then the intensity of their surprise, should the attack occur, is much greater. Because they misperceived rather than miscalculated, the intensity of their surprise can be considered as the difference between impossibility and unity.

decision-making to produce variation in procedures. Stress may increase a tendency to seek concurrence. If decisionmakers feel threatened and see no obvious way out, the tendency to engage in collective defensive-avoidance may increase sharply (Janis and Mann, 1977:132). Separately and together, situational and group factors may affect the processing of choice. Indeed, variation in these two factors may help to explain some of the differences in the processes of choice highlighted by each of the three principal explanations.

This review of explanations of decision-making documents both controversy and consensus. There is agreement on the centrality of uncertainty and complexity as components of the decision-making environment. The lack of information about the likely consequences of choice and the value conflict implicit in most situations makes decision-making difficult. Second, three explanations of choice—analytic, cybernetic, and cognitive—suggest that people respond differently to uncertainty and complexity in their performance of the five decisional tasks. While the latter two explanations emphasize the constraints to rationality, each delineates different kinds of limits. Finally, diagnosis, search, revision, evaluation, and choice are affected by membership in a group and the stress of crisis.

The disagreement and dissensus among these explanations of choice may be somewhat less than is apparent on first reading. A body of evidence suggests that people use different procedures for different kinds of tasks. Decisionmakers may combine those elements of analytic, cybernetic, and cognitive strategies that are compatible to develop procedures more suited to particular circumstances. These hybrid paths to choice may provide a more powerful explanation of decision-making than current concepts. Drawing on the three principal explanations, the next chapter begins by specifying multiple paths to static and dynamic choice and relates these different forms of constrained rationality to differences in group procedures and crisis-induced stress. It concludes with a discussion of the level of analysis and criteria of admissible evidence and inference for a valid explanation of decisions made by Israel's leaders in 1967

chapter 3

Multiple Paths to Choice

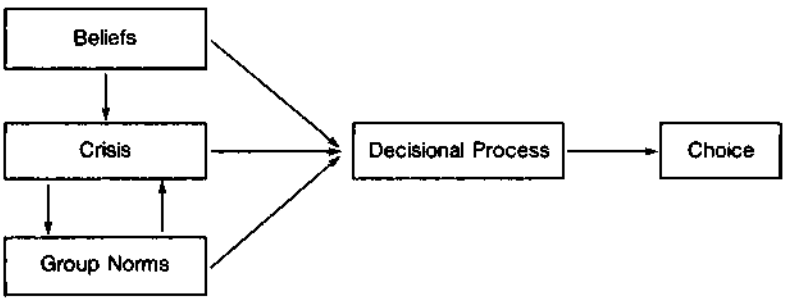
Introduction

Although students of decision-making have documented critically important constraints to rational choice, they are not fully agreed on the scope of these boundaries to rationality. This disagreement may reflect considerable variation in the performance of decisionmakers, especially in such a crucial area of public policy as national security. This chapter first establishes multiple forms of constrained rationality by delineating different paths to any single choice, and then it examines processes of choice over time. Prior to the detailed examination of different forms of constrained rationality, a brief outline of the factors that may explain these differences is in order.

Leaders can and do use a variety of processes to handle the complexities and uncertainties of their strategic environment. The particular processes they use can be explained in part by the norms and procedures their group accepts, by their perceptions of immediate threat and pressure of time, and by the set of strategic concepts or collective beliefs they have developed and accepted over time. The relationship of group procedures, crisis perceptions, and strategic beliefs to decision process and outcome is displayed in Figure 3.1. Each of these factors, separately and sometimes together, affects the likelihood that one rather than another process will be used. The content and structure of strategic beliefs, for example, may contribute to perceptions of threat which may in turn affect the dynamics of a decision-making group responsible for national security. Or, group processes may create a heightened sense of common threat and pressure of time. All these factors may operate directly as well as indirectly on processes of choice. In more formal language, leaders' beliefs about their strategic environment, their perceptions of threat, and the procedures used in their group explain decisional processes and therefore the quality of choice.[1] Figure 3.1 provides a formal statement of the central theoretical argument of this study.

1. Philosophers of science who have examined decision-making studies suggest that there may be tension between the goal of theory-construction and the phenomenological

Figure 3.1
National Security Decision Making



Before an examination of the relationships displayed in Figure 3:1, the different paths to choice must be established. Each of the three explanations of choice reviewed in the last chapter specified the basic decision-making tasks—diagnosis, search, revision, evaluation, and choice—somewhat differently. These three explanations are summarized in Table 3.1. Each assumes an internally consistent and coherent process of choice. Some of the psychological evidence suggests that this may not be the case.

Decisionmakers may combine elements from several processes to make their choices. Evidence drawn from research on attribution, information-processing, and social judgment suggests that people use many rules or strategies to make a single decision. Early in a process of evaluation, people may compare a number of alternatives on the same attribute. After they have eliminated those options that are unsatisfactory, they may then proceed to weigh the advantages and disadvantages of the remaining alternatives before choosing (Berl, Lewis, and Morrison, 1976; Payne, 1976). Some social judgment theorists find that people synthesize analytic and cognitive elements in a single process of choice (Hammond, Stewart, Brehmer, and Steinman, 1975; Slovic, Fischoff, and Lichtenstein, 1977). Decisionmakers may adapt their processes of choice to suit their environment and the task at hand.

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assumption of the reconstructed world of the decisionmaker as the explanation of choice (Gorman, 1970 and Yanarella, 1976). The tension, however, is a result in part of the kind of factors which analysts include in their approach to formal explanation. The contradiction occurs when decision-making is explained by variation in objective environmental characteristics—the external or domestic setting—which are beyond the purview of decisionmakers. When the principal explanatory factors of decision-making are themselves subjective—such as related sets of beliefs, perceptions, and norms of decisionmakers—this contradiction is largely removed. Indeed, the central theoretical thrust of this study is consistent with a hermeneutic explanation of decision-making which interprets decisions within a broader and more inclusive context of the subjective environment of decisionmakers.

TABLE 3.1

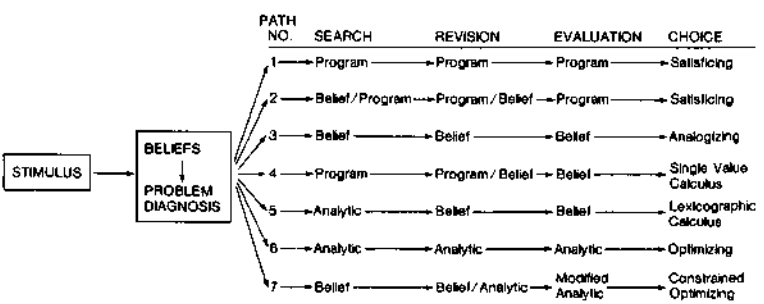
EXPLANATIONS OF THE PROCESS OF CHOICE

Tasks	*Cybernetic*	*Cognitive*	*Analytic*
Diagnosis	preselected and validated indicators	indicators derived from belief systems	unspecified
Search	programmed consideration of a preselected number of variables	within the parameters of belief systems	across all relevant options
Revision	incremental and conservative	deductive and categorical inference; sharp oscillation from low probability to certainty	optimal*
Evaluation	limited; reliance on preanalyzed SOPs or programs	limited; sequential along one or two dimensions	comparative calculation of cost, benefit, and likelihood of principal consequences of alternatives
Choice	satisficing	single-value criterion, analogizing, lexicographic calculus	optimizing

* Analytic revision may be gradual or sharp; it responds to the diagnosticity of the data. Cybernetic revision is more likely to be incremental while cognitive revision is more likely to move sharply to and from estimates of low probability to certainty.

Decisionmakers may be more flexible and creative than current explanations of their processes suggest. An adequate reconstruction of their processes of choice may require the combination of different elements on the path to choice. Drawn from the principal explanations of choice, the multiple paths to choice diagrammed in Figure 3.2 are likely combinations by policymakers of decisional tasks.

Figure 3.2
Multiple Paths to Choice



Multiple Paths to Static Choice

Decision-making begins with a diagnosis that a problem exists. Policymakers must recognize an issue for decison before they can begin to

perform those tasks designed to ameliorate or solve their problem. Perception of a stimulus for decision is filtered through belief systems. Decisionmakers begin their process of choice by referring to prevailing beliefs; they have no other basis.

When the problem is diagnosed as one of national security, strategic doctrine provides a rich source of relevant beliefs and concepts. Frequently, strategic concepts have been considered in depth over time and serve as standing estimates for decisionmakers at a given moment in time. Indeed, strategic doctrine often defines the boundaries of a problem and interprets the stimulus for policymakers. Leaders may identify the act of an adversary as the onset of a decisional problem, for example, only by referring to a standing concept of deterrence.

Particularly when decisionmakers have been involved in protracted conflict with an adversary, strategic concepts are likely to be well-developed and articulated. These concepts summarize the intersubjective consensus of successive sets of policymakers developed over time. Generally, doctrine includes beliefs about the nature of the environment, current strategic dilemmas, and principal adversaries.[2] Leaders generally do not begin consideration of each new stimulus *de novo*, but refer to these standing beliefs developed over time. Although leaders may define their strategic environment differently, doctrine may provide the most available and coherent framework for commonly accepted beliefs over time.

If all decisionmakers begin their process of choice by referring to prevailing concepts, they differ significantly in the way they manage these beliefs in the subsequent processing of information and evaluation of options. Indeed, the relative importance of initial beliefs, once the process of choosing gets under way, can be used as a major criterion to distinguish one kind of decisional process from another. In Path 1, officials spend little time on interpretation of the stimulus through their belief system. They proceed directly from prevailing concepts to consideration of a preselected number of variables, incremental revision, limited evaluation, and satisficing choice. They consider only a limited number of variables and rely on codified routines to search, revise, evaluate, and choose. Such routines may be found in the organizational memories available to high-level decisionmakers or in well-articulated strategic doctrine. This first path is the reconstruction suggested by the cybernetic explanation. To infer such a process of choice, there must be evidence of explicit references by decisionmakers to organizational routines or strategic doctrine in the discussion preceding choice. They must indicate that they chose the first satisfactory option without undue reflection.

2. Snyder and Diesing (1977:494) define the belief system of a foreign policy decision-maker as concepts of the nature of international politics and a set of images of each of the bargainers including oneself. Strategic doctrine generally includes both these components: a concept of international politics and a set of assumptions about the principal participants and their options.

Decisionmakers need not rely exclusively on cybernetic procedures to make satisficing choices. In Path 2, for example, policymakers search more extensively than is usual in a cybernetic process. In the early stages of decision, beliefs continue to dominate.[3] After members of a government have identified the onset of a problem for decision through reference to their belief systems, they continue to search these beliefs for policy options. If the first one or two options identified are part of an established sequence, then subsequent evaluation is likely to be limited and choice will be satisficing. This path differs from the usual cybernetic reconstruction in its emphasis on somewhat more extended search for information and options and is especially likely if search highlights an alternative which is prescribed as the obvious next step on the basis of past experience.

Alternatively, belief systems may dominate the formation and revision of estimates rather than the search process. Even though leaders identify only the next option in a sequence, they may include more than the preselected variables in their revision of estimates of likelihood. In considering or reconsidering probable contingencies, for example, they may draw upon additional factors highlighted by prevailing concepts. Along this second path, then, decisionmakers use different combinations of cognitive and cybernetic search and revision but, nevertheless, restrict their evaluation and choice of options as the cybernetic explanation suggests. Policymakers need not be restrictive or "automated" in their performance of the earlier decisional tasks to produce a satisficing choice; rather, a satisficing decision can flow from a process which is considerably more complicated than the cybernetic reconstruction suggests.

In the third path to choice, policymakers' beliefs remain predominant throughout the process of choice and constrain the performance of all the decision tasks. In national security decision-making, for example, repeated reference by leaders to strategic concepts and assumptions in their early discussion and debate would be preliminary evidence of a cognitive process of choice. Leaders may also restrict their search to options which are consistent with prevailing strategic concepts. Even if members of a decision-making group make no explicit reference to strategic arguments when they consider alternatives but reject out of hand any option which contradicts prevailing concepts, then the inference can be made, although with less confidence, that strategic concepts serve as a belief system which constrains search and evaluation.[4]

3. Steinbruner (1974:139) suggests that cybernetic processes must be supplemented by cognitive processes when complexity and uncertainty are not reduced in a decomposed environment. He focuses attention principally on the path from programs to beliefs rather than from beliefs to programs.

4. In the absence of direct empirical evidence, the analyst can only make explicit behavior anticipated by an explanation. If decisionmakers consider only those options which are consistent with beliefs, then the inference can be made that decisionmakers are behaving as if their process of choice is structured by their belief system. Criteria of inference are discussed in greater detail at the end of this chapter when standards of explanation are examined.

When they consider the consequences of options, leaders who rely principally on their belief structure are likely to use categorical language. Use of such terms as "impossible" or "certainty," for example, generally indicate constrained information-processing. Leaders' estimates of the likely actions of others change little during the course of the discussion; they "know" rather than question, and their knowledge is deduced from their prevailing assumptions (Snyder and Diesing, 1977:333). These decisionmakers are very confident in their inferences and estimates.

In evaluating alternatives, leaders emphasize one or two overriding values which take precedence over all others and whose importance they consider obvious. They may make reference to analogous situations which they recall in discussion, and they speak with assurance of the lessons of history. Decisionmakers do not allude to the complexity of their choice, but defend their preferred option as the "best" choice. Reference to analogous situations, emphasis on the simplicity of the problem and the obvious choice, and the use of such language as "best" rather than "better" all indicate a cognitive process of choice. This path emphasizes cognitive constraints to information-processing and evaluation. It includes a deductive pattern of search and revision, a limited evaluation of alternatives, and a choice which, at the extreme, is the product of categorical inference and analogizing or single-value calculation.

This generally accepted reconstruction of a cognitive process is neither the only nor the major variant of constrained choice. Decisionmakers may use cybernetic or analytic procedures to search and revise, but evaluate and choose by referring principally to their beliefs. As they proceed from one decisional task to another, their reliance on basic components of their belief system increases rather than decreases. Path 4 suggests, for example, that decisionmakers combine cybernetic search with cognitive revision and evaluation. After they diagnose a problem, they move to standard procedures to consider only the next option. In their discussion, they explicitly refer to an alternative as the obvious next step in a sequence. As the process continues, however, they shift the terms of the debate to emphasize the dominance of the proposed option along one or two principal values and its consistency with prevailing concepts. What cybernetic processes split, cognitive processes keep apart.

Decisionmakers may begin by limited search for an option which improves things marginally, and they may even monitor only a limited number of variables to generate revised estimates of probability. As they work, however, they shift from a criterion of marginal improvement to one of best along some relevant dimension. They no longer speak of "some" improvement but refer to the "best" option or a choice which is good on its merits. The result is a much less modest choice made with less humility.

When leaders combine analytic and cognitive procedures to arrive at

their decision, the tone and spirit of discussion are considerably different. Path 5 diagrams such a process of choice. Decisionmakers consciously extend their search for alternatives and may express their frustration with available options which are presented in sequence. They may even deliberately extend their search for additional information and generate some alternatives which are not fully consistent with their belief systems.

If the information they receive, however, challenges important components of their belief systems, leaders may revert to a constrained process of opinion revision where discrepant information is ignored or discounted. If they depress the impact of inconsistent evidence on the validity of central beliefs, policymakers are likely to continue to emphasize the relevance of these beliefs to evaluation and choice. They may acknowledge openly the need to simplify and state explicitly that they are choosing on the basis of one or two important values which discriminate between options. Even as they do so, however, they make reference to the complexities in their environment which make such simplification unavoidable. Unlike their colleagues who combine cybernetic search with cognitive processing, those who follow an analytic-cognitive path speak with less assurance; their language is less categorical.

To make their choice, decisionmakers may use some variant of a lexicographic decision rule or "eliminate by aspects" (Tversky, 1972). Lexicographic decision strategies require decisionmakers to impose some order on their values but not to trade off or integrate across these dimensions of value. Policymakers simply use their most important value to see if alternatives affect it differently. If this first value does not discriminate between options, they then move through the remaining values until they reach one which does distinguish an alternative as better than the others. Such a procedure is much less demanding than comparison of all the relevant alternatives and values but more comprehensive than consideration of only one value or choice by analogy. Although these three last paths to choice are all examples of constrained information-processing and evaluation, there are important differences among them. And these differences may have considerable policy consequences.

The next path charts the familiar analytic process of decision. After leaders perceive and identify a stimulus to decision, beliefs gradually recede and become less important as a point of reference for subsequent search, evaluation, and revision. Analytic search is indicated by an explicit effort to discover additional alternatives and gather further information. Leaders anticipate difficult choices and ambiguous information and acknowledge dissatisfaction with the obvious policy options. Even under considerable stress in a national security crisis, leaders have engaged in analytic search. Those who advised President Kennedy after the discovery of Soviet missiles in Cuba deliberately expanded search beyond one or two obvious

policy options (Schlesinger, 1965:803-805). Although they did not identify all possible alternatives, they identified six rather than the obvious one or two.

Decisionmakers are also skeptical of prevailing estimates and expect both discrepant and confirming evidence. Although they may make an initial attempt to defend the validity of important beliefs, they do make adjustments in the face of a continuous flow of data which do not conform to expectations. During the discussion which precedes choice, leaders generally do not express their estimates of probability in quantitative terms. An examination of the Japanese choice to attack Pearl Harbor, for example, finds that, although decisionmakers did not express probability estimates in numerical values, they did consider the likelihood of the consequences of various alternatives and weigh their cost and benefit (Russett, 1967:92). Use by officials of such terms as "probably," "doubtful," "likely," "unlikely," or "possibly" is a first indication of an analytic process of estimation. Decisionmakers who are analytic express only moderate confidence in their estimates and avoid the categorical language of certainty.[5]

Even policymakers who are analytic do not generally present precise estimates of cost and benefit. They do, however, acknowledge value complexity and compare the alternatives they consider. When they speak of the choice that confronts them, they use terms like "sacrifice," "compensation," "relative advantage," or "give up in order to gain." They may express their calculation of the cost and benefit of the consequences of alternatives by referring to their "advantages," "gain," and "desirability," or describe them as "undesirable," "costly," "risky," or "dangerous." Essential is some direct comparison accompanied by a recognition of the complexity of the choice.

After decisionmakers have engaged in even an *ad hoc* or approximate process of costing, they choose that option which promises them the highest expected gain. Although they do not follow exact procedures of probability-value multiplication, leaders do make crude estimates of likelihood and relative gain and loss. They consider their choice the best possible or the least dangerous in a complex and uncertain world. Aware of these complexities and uncertainties when they make their choice, they do not claim to have removed the often painful conflict between options. More so than their colleagues who rely principally on their established beliefs, they are modest in the face of history.

Leaders may not be consistently analytic, however, in their process of

5. In a reassessment of Kennedy's decision-making during the Cuban missile crisis, Snyder (1978:361) uses evidence of categorical certainty to argue that Kennedy was not analytic. While his treatment of problem formulation and evaluation of options is somewhat flawed, certainty in inference and estimates does distinguish non-analytic from analytic choice.

choice; performance of some of the important decisional tasks may be constrained. The final path to decision traces such mixtures of cognitive and analytic components. In Path 7, beliefs do not diminish in importance once policymakers have identified a problem. They may stop searching, for example, after they have identified a few obvious alternatives which are consistent with prevailing beliefs. They reject out of hand any option which is inconsistent and limit their search for additional alternatives. From the beginning, their process of choice is constrained.

Athough search is limited, leaders may be thorough in their search for information and open to discrepant data. If confronted with a steady flow of challenging information, they may be able to modify strongly-held opinions. Although the alternatives they identify are the outputs of cognitive processes where beliefs predominate, revision of opinion need not necessarily be so. It is entirely possible, of course, that both search and revision are constrained.

Even so, decisionmakers may carefully consider the cost and benefit of the consequences of the principal options they have identified. Having done so, they choose that option which promises the greatest gain.[6] There is considerable evidence of the use of such a mixed path to choice. Axelrod examines a range of decision-making processes and concludes that, within the limits of simplified images, policymakers are analytic both in their processes of inference and in their selection of options. They can make inferences consistent with their assertions and choose the best alternative in terms of these simplified images (1976:243-244). Decisionmakers also may use more than one evaluative procedure. They may begin by eliminating those options that are unsatisfactory and then weigh the relative advantages and disadvantages of the remaining options (Berl, Lewis, and Morrison, 1976). Snyder and Diesing, in their study of crisis decision-making, also suggest that leaders may supplement a decision strategy of maximization with elements of lexicographic calculation (1977:346-348).[7] In all these cases, constraints dominate the performance of earlier decisional tasks but recede as policymakers move into the final stages of evaluation. Decisionmakers use both cognitive and analytic procedures but in sequence. Choice is constrained though analytic, and analytic though constrained. The longer cognitive processes persist through the sequence of decisional tasks, the more constrained the final choice. Within

6. Steinbruner suggests that analytic and cognitive processes are non-substitutable. However, once alternatives have been identified—and rejected—through search of prevailing beliefs, the consequences of remaining options can be comparatively evaluated.

7. Snyder and Diesing suggest that policymakers may begin by rejecting alternatives with obviously "bad" consequences along one or two important dimensions and then proceed to comparative evaluation. It is more difficult to see how maximization could supplement a satisficing strategy, an alternative which Diesing suggests. For Snyder's challenge to the validity of such an interpretation, see p. 348.

this last path to choice, several combinations of cognitive and analytic procedures are possible, but all end with some comparative evaluation of major alternatives and an optimizing choice among them.

Other possible paths to choice have been eliminated if they did not meet either of two necessary conditions: logical coherence and some empirical evidence of their use. The seven paths that remain can each be understood as an "ideal type" whose empirical interpretation may reflect varying combinations of component tasks. Of the seven, three replicate the tight consistency of the cybernetic, cognitive, and analytic explanations. The remaining four differ from the usual reconstruction of decision-making processes and attempt to mirror the mixture of procedures policymakers use to respond to their environment and to the task at hand. It is very unlikely that decisionmakers will use one strategy all the time for all kinds of decisions. On the contrary, some evidence suggests that the same person will use a variety of procedures to make even a single choice. A comprehensive explanation of decision-making must include multiple components in its reconstruction of a single process of choice.

Discussion of these multiple paths to choice also highlights a second issue of some importance. Six of the seven paths can be considered examples of constrained or bounded rationality. Only the sixth path reconstructs what is generally considered to be a rational decision-making process; all the others emphasize the limits to human rationality. Yet, the differences among these six processes are considerable. Although all are constrained, some produce choices which are incremental adjustments to long-established programs, others yield highly over-simplified single-value decisions, still others produce more complicated choices based on some rank-ordering of priorities, and the last permits a choice which is optimizing even if it is constrained. While the concept of bounded rationality is valuable in its emphasis on constraints, it obscures when it ignores the important differences among these processes of choice.

Those whose focus is the quality of choice are interested in these differences among constrained processes. They are interested particularly in the conditions which promote any variant of analytic decision-making, even those that are constrained. A cognitive-analytic sequence is not the path expected by observers of major national security decisions. On the contrary, those paths which emphasize the pervasive importance of beliefs—Paths 3, 4, and 5—are the generally anticipated processes of choice. Other things being equal, when leaders operate with the uncertainties and complexities that surround national security decisions, they are likely to draw heavily on prevailing concepts to make their inferences and to use cognitive short-cuts to make their choices. Even if a particular event triggers a more extensive search or highlights an option tied to an available program, a resort to some simplifying mechanism, as

leaders evaluate and choose, is not at all surprising. Some variant of a cognitive process is considered the empirically dominant mechanism of choice.

More surprising is evidence of a path to decision which includes any significant analytic component. Even a cognitive-analytic sequence, one form of constrained rationality, is not considered usual. When it does occur, those who study decision-making are challenged to explain why and when leaders are able to use any variant of an analytic procedure. Although rationality is bounded in both cases, the difference between a cybernetic-cognitive sequence which produces a highly simplified decision and a cognitive-analytic process which permits some degree of comparison and optimization is not at all trivial. This is especially so when the issue on the agenda is one of national security. Careful distinction among the varieties of constrained processes is essential if differences in the quality of choice are to be explained.

Multiple Paths to Dynamic Choice

Once policymakers have made one decision, they do not necessarily continue to use the same processes if the problem persists. If they use hybrid procedures to reach a single decision, they are as likely to use different procedures at different points in time. If their first choice does not meet their minimal objectives, leaders may shift to a different process. In explaining choice, this study is interested not only in the path to a single decision but also in the explanation of a sequence of decisions over time in the face of a persistent problem.

Earlier in this chapter it was suggested that variation in decisional processes can be explained by the content and structure of strategic beliefs, by leaders' perceptions of their immediate environment, and by the dynamics that operate when a group decides (Figure 3.1). It is difficult to determine precisely the relative weight of each of these factors in explaining why policymakers use one rather than another process. Special problems arise when all three operate indirectly as well as directly to affect the procedures leaders use. Since group discussion and procedures and a sense of threat and time pressure are of well-documented importance, this study pays special attention to the linkage between doctrine, process, and choice. It is also interested particularly in the combination of conditions which may promote any kind of analytic process at any time in the sequence of decisions.

The structure and substance of strategic doctrine may affect the kind of processes policymakers use. Decisionmakers may use combinations of cognitive and cybernetic processes when a stimulus is directly anticipated by available doctrine or highlights a concept tied to an accessible program. Under these circumstances, leaders can be expected to use some variant of

cybernetic choice (Paths 1 and 2). Strategic doctrine serves as a substitute for programs if it is well-articulated and specifies appropriate responses to plausible contingencies. This specification provides the equivalent of a decision rule and obviates the necessity for extended search or evaluation before choice. Insofar as strategic concepts are explicitly prescriptive and comprehensive, decisionmakers who share these beliefs are likely to use some variant of cybernetic processes when they make their first attempt to solve a security problem.

Policymakers also are likely to begin with cognitive-cybernetic procedures if they identify a problem for decision but perceive little threat and adequate time for decision. Leaders who are surprised by unexpected behavior by an adversary, for example, may acknowledge their misperception or miscalculation and recognize the need for decision, but perceive little threat or pressure for immediate action. The low level of urgency will permit inertia and routine group procedures to persist. Operating within a unit, decisionmakers are then likely to make use of those available programs that cover such contingencies. Low levels of threat perception and time pressure reinforce routine group procedures to promote some version of cybernetic choice.

Policymakers may not be able to use one of the low-cost cybernetic strategies to begin their decisional sequence. If, for example, the stimulus to decision is so unexpected that it has not been seriously considered, then decisionmakers must use other processes of choice. Secondly, a decisional process may not begin when threat and time pressure are low. Policymakers may simultaneously identify a problem and perceive moderate threat and limited time for response. An unexpected action by an adversary, for example, is likely to increase the level of perceived threat and time pressure. Leaders then operate under crisis conditions which generate some stress. Thirdly, moderate stress may occur if earlier efforts to manage a problem have proven to be ineffective and the problem persists. If, for example, decisionmakers have experimented with available programs as a first response to an unacceptable challenge and their first choice fails to restore the *status quo ante*, the level of stress is likely to increase. Moderate levels of threat perception and time pressure are most conducive to some form of an analytic process (Paths 6 and 7).

When crisis-induced stress is moderate, decisionmakers are freed from routine constraints and stimulated to break through the normal pattern of inertia. In a group, members are provoked to seek additional information, to coordinate policy more carefully, and to depart from routine or satisficing responses to the standard problems they normally confront. Operating under only moderate stress, leaders in a group are less constrained by routine procedures but are still not prone to extremes of "groupthink." Research on individual performance at a similar level of stress converges with the findings on group performance. The biological and

psychological evidence generally suggests that the relationship between stress and task performance is curvilinear. If decisionmakers perceive moderate threat and finite decision time, they may have both a stronger incentive and an increased capacity to search for and evaluate alternatives through analytic processes. Group dynamics may interact with perceptions of some threat and limited—but adequate—time to promote a "shift toward rationality" by policymakers who become willing to suspend normal politics (Morgan, 1977:177).

If, in addition, decisionmakers can refer to closely-reasoned and carefully-structured strategic argument, their performance of difficult tasks may be facilitated. Strategic concepts may help officials to identify and diagnose a problem for decision before threat perception and time pressure become intense. If they provide a set of indicators to be monitored, policymakers will find it easier to revise their estimates. Unpleasant information is more likely to receive attention if it is connected to a well-established and accepted indicator. And if prevailing strategic concepts highlight the value conflict inherent in strategic dilemmas, decisionmakers may be less prone to skirt the comparison of values and to deny the necessity to make some sacrifice. The logic of starting assumptions is not unrelated to the logic policymakers subsequently use. The structure and content of strategic argument can contribute directly and indirectly to analytic processing, even if it is constrained.

As many observers of national security decision-making have noted, analytic processing, even when it is severely limited, is not common. It appears that conditions must be almost ideal if policymakers are to begin their decision-making with analytic procedures, or if they are to shift to them after other processes have failed to limit the level of threat perception and time pressure. The quality of strategic logic is itself an important factor. If it can be used to identify a problem before the problem becomes too threatening or too pressing to manage, it can create the psychological conditions which promote at least modified analytic choice. Moreover, if decisionmakers use concepts which emphasize value conflict, under only moderate stress and within altered group dynamics, the likelihood of some variant of analytic processing increases. It is impossible to separate with any precision the contribution of each of these factors to analytic decision-making. When they occur together, however, they reinforce each other and strengthen the probability that decision-making will be unusual rather than usual. Under these circumstances, policymakers may be most willing to use demanding and time-consuming procedures even in their first approach to their problem. Moreover, if earlier and easier methods have produced no improvement under these circumstances, decisionmakers are more likely to switch to more difficult analytic processes in a renewed attack on their problem.

If it is difficult to begin with even modified analytic processes, however, it

may be somewhat easier to continue. Once decisionmakers begin to travel this route, they are likely to continue to do so unless they perceive a drastic change in their environment. Should they be forced to make sharp and unexpected upward revision in their estimates of a probable adversary attack, for example, and should these revisions be accompanied by high-intensity threat and short time for decision, leaders very likely would exclude any analytic component in their process of choice. If their revision of estimates of adversary intent is gradual, however, and accompanied by increases in felt threat and urgency spread over time, decisionmakers may continue to process choice analytically even when they perceive intense threat and time pressure. After they have made one decision with analytic procedures, policymakers may find it easier to make the next one through a similar process. Initial estimates of value and probability may make subsequent calculations less onerous. Decisionmakers may not only find it easier to continue, but they may also find it more difficult to "switch from rationality." Alternative processes may be less psychologically satisfying than the procedures they have performed. Having learned through experience to appreciate the complexities and uncertainties they face, they may find it more difficult to simplify through shortcuts. Decisionmakers themselves want to be rational.

Leaders may never begin, however, to use analytic procedures. They may experience a sudden and sharp increase in the level of threat and, dissatisfied with available programs, move directly to some variant of cognitive choice. Even if they have made no prior attempt to solve the problem, their decisional environment may not be conducive to any version of an analytic process. Policymakers may first become aware of a threat when they perceive it at a high level of intensity; under these circumstances they are less likely to be the challengers and more likely to be responding to an external trigger. If, in addition, decisionmakers feel an urgent need for action, they perceive what is generally considered an acute crisis. The high level of stress generally associated with an acute crisis precludes almost any kind of analytic processing. Stress also operates indirectly on members of a group to increase the likelihood of "groupthink" and cognitive processing. Under these circumstances, policymakers are less likely to consider the nuanced logic of strategic argument. Indeed, faulty strategic assumptions may have contributed to the failure to perceive a challenge when it was less threatening. If this is the case, strategic concepts will be of no further use to decisionmakers who have acknowledged misperception or miscalculation. Operating with shaken expectations and under stress, decisionmakers, individually or collectively, will simplify complexity and reduce uncertainty through cognitive shortcuts. Once they start to do so, they are not likely to stop.

The use of a particular decision strategy is neither ahistorical nor random, but depends among other things on timing. Those who begin their

processing of choice in a non-crisis environment may take advantage of available programs as a first cut, but if the problem persists and programs run out, they are forced to switch. Whether they switch to or from rationality depends in part on their own and their colleagues' perception of time and threat and upon the quality of the logic they use. Similarly, those fortunate enough to begin their process of decision-making when perceptions of threat and time pressure are only moderate are more likely to use procedures with some analytic component. On the other hand, those who confront an acute crisis are more likely to approach their problem shorn of the logic and the time they need to use even modified analytic processes. The capacity for modified rationality is related, at least in part, to the timing and circumstances of action in history; those who begin earlier under favorable conditions have greater freedom to quarrel with history on its own terms.

In 1967, in both the pre-crisis and acute crisis stages, Israel's leaders made a number of crucial decisions about the use of force—choices which acquire interest for the analyst not only individually but as a sequence. The challenge is to explain these decisions, to uncover the constraints in the process, and to explore the underlying logic. Before doing so, however, the criteria of a valid explanation need brief discussion. For the explanation of choice to be valid, the appropriate levels and units of analysis must be selected, the sources and standards of evidence made explicit, and the basis of inference established.

Evidence and Inference in a Single Case

When analysts of national security decision-making turn to questions of evidence and inference, they themselves face a multiplicity of difficult decisions. First they must determine the appropriate level of analysis—the individual or the group—and examine the fit of explanations developed at one level of analysis to another. Then, they must uncover evidence appropriate to the explanation they wish to make and, finally, they must establish criteria of evidence which can validate their inferences. Problems of inference are particularly troublesome when a study investigates one rather than several cases.

Level of Analysis

Any explanation of decision-making must begin by establishing the level at which decisions were made. National security choices can be made either by single individuals, acting with or without the advice of civilian and military advisers, or by an officially authorized group formally charged with responsibility. Both levels are quite common;[8] in different cir-

8. Snyder and Diesing (1977:357) find that of 37 crisis decisions where the use of force was probable, 24 were made by one or two decisionmakers, acting alone or in consultation with their advisers. Only 13 were made by groups or committees. Individual-level decisions appeared to be twice as frequent as group choices.

cumstances, at different times, on different issues, sometimes an individual and sometimes a group makes the critical choices. In the last decade in Israel, the focus of this study, national security decisions have been made by the head of government or by a single minister, acting alone or in consultation with one or two advisers, and by the cabinet as a whole.[9] The first two choices in the sequence of this case in 1967, the decisions to mobilize, were made by Prime Minister Eshkol in close consultation with Chief of Staff Rabin. The three remaining decisions, however, were made by the officially authorized body, the cabinet. The weight of all its members, moreover, was not equal. Prime Minister Eshkol, Foreign Minister Eban, Minister of Labor Allon—after 24 May—and Minister of Defense Dayan—after 1 June—were the "essential" members.

When an individual choice is the focus of explanation, the analyst can draw explanatory variables from both the individual and the group level of analysis. Individual beliefs, perceptions of the environment, and decisional tasks are the relevant individual-level variables for the first two decisions. Group-level variables include the impact of collective beliefs and arguments presented by colleagues and advisers as well as their political and institutional position. In this case, variables drawn from the group level of analysis become inputs to individual processes of decision-making; there is no problem of cross-level inference as long as the impact of these variables on processes of individual choice is specified. The first two decisions, the choices to mobilize, are explained by the impact of both kinds of variables on individual decision-making processes.

Whereas the first two decisions were made by an individual in consultation with his advisers, the next three choices were made by a group—the cabinet. The level of analysis problem becomes somewhat complicated when a group's decision is to be explained. Two approaches to cross-level inference are possible. The analyst may draw on individual as well as group-level variables, but must specify how these variables are aggregated to produce a collective decision. Alternatively, an examination of collective decision-making may treat the group as a whole and apply concepts developed to explain individual processes to those of the group. Both these approaches create some difficulty.[10]

9. In the early years after independence, Prime Minister Ben Gurion dominated decision-making in the area of national security. Although he consulted his ministerial colleagues, as prime minister he was more than "primus inter pares." In the period which followed his retirement, responsibility was more widely shared. For an analysis of decision-making under Ben Gurion, see Brecher, 1975:225-317 and Avi-Hai, 1974:175-250.

10. Brodbeck (1958) distinguishes between "methodological individualism" and "metaphysical holism" at the definitional and explanatory level. Methodological individualists, grounded in the empiricist philosophical tradition, deny that there are group properties and explain group behavior in terms of the aggregate of individual behaviors. Metaphysical holists maintain that the group has properties distinct from those of individuals within the group, and they explain collective behavior by group properties. Methodological individualists must specify the composition laws or rules of aggregation which combine

The first approach considers that group choice can be explained by the decisions of individual members. Explanations of group decisions, however, provide no agreed-upon procedure for deriving the collective choice from those of its individual members. Analysts recognize that the whole does not necessarily equal the sum of its parts and that all parts are not necessarily equal; some members of a group are more essential than others. Unequal importance among members is only one difficulty in integrating preferences to explain a group decision. Analysts disagree about when and how individual preferences should be aggregated. These differences in approach to procedures and timing of aggregation flow, at least in part, from differences in the explanation of decision-making tasks.

Those who explain individual processes through some variant of an analytic process attempt to compare the utilities of members of a group. Since the unit of value of one does not necessarily equal that of another, such comparisons are likely to be invalid.[11] The timing of aggregation also may be important. Members may compromise their initial differences and then work with a group estimate, or they may use new evidence to change their individual preferences and compromise only after revision. The collective outcome would be quite different in the two cases.

Most variants of cognitive explanations confront similar difficulties. It is not obvious how individual choices, which may be the product of inconsistency-management or stability-seeking, are combined to produce a group decision. Social psychologists address this problem most directly when they suggest that individual preferences can be aggregated through concurrence-seeking as group members try to reduce their differences.[12]

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individual elements to explain the collective behavior. Metaphysical holists cannot attribute individual properties to group entities in their explanation of group behavior. Both these concerns are particularly relevant to explanations of decision-making as collective behavior.

11. Arrow's pioneering work demonstrates the inconsistencies among several necessary conditions if group preferences are to be mapped from individual values. The condition which is most difficult to meet is the necessity to compare interpersonal preferences. Others have suggested that assumptions derived from models of individual rationality can be revised when interpreted in a group context. They suggest, for example, that a criterion of Pareto optimality may provide a better basis for aggregating preferences. A group choice is Pareto optimal if no other choice can better reflect the preferences of some members without simultaneously increasing the distortion of the preferences of others. The use of a criterion of Pareto optimality would avoid direct comparison of interpersonal utilities. Steiner (1970) argues, however, that it is too restrictive to be applied to a major policy issue. Bower (1965) cites an unpublished manuscript by Zechhauser in which he proves an impossibility theorem that demonstrates the incompatibility of amalgamating subjective distributions and subjective utilities separately and satisfying the criterion of Pareto optimality. For an extended discussion of the impact of different procedures of aggregation on collective outcomes, see Arrow, 1951; Bower, 1965; Buchanan and Tullock, 1962; Cotter, 1974; Horelick, Johnson, and Steinbruner, 1975:14-15; and Shepsle, 1974. Those who use analytic concepts as normative theory emphasize that any procedure of aggregation introduces considerable distortion of individual preferences. Even the use of simple voting rules, where winners and losers are decided by totaling the preferences of all the participating members, produces distortion. This distortion, while of central importance to normative argument, becomes the focus of explanation in the examination of collective choice.

12. Janis (1972) and Janis and Mann (1977:129-134) are somewhat ambiguous on the

Finally, all versions of the cybernetic explanation ignore the problem of the aggregation of individual preferences; satisficing strategies deliberately avoid complex issues of value integration. Consequently, they provide no explanation of how individual preferences are combined to produce a satisficing choice.

A second approach contends that groups have attributes distinct from those of their component parts. When the properties of the group as a whole are the principal components of the explanation, the problem of aggregating individual preferences is avoided. Students of collective decision-making, however, tend to extend attributes of the individual to the group. Analysts have suggested that the group as a whole may use new evidence to revise a collective probability distribution.[13] Others have attempted to construct a collective cognitive map by drawing on the known beliefs of members or the documents and publications issued by the group (Roberts, 1976 and Hart, 1976). In addition, scholars have attempted to examine the association of individual members with ideas in the collective decision process; they substitute the "idea" for the individual as the unit of analysis (Bonham, Heradstveit, and Shapiro, 1977). These studies suggest that the group produces a decision which is distinct from the parallel processes of its constituent members. They run the risk, however, of the inappropriate application of concepts and assumptions developed at the individual level to the group level of analysis.[14] While it is easy to understand a group attribute of cohesion or stratification, it is more difficult to specify how a group thinks.

There is as yet no fully satisfactory solution to the problem of cross-level inference from individual variables to the explanation of group decisions.[15] This study, therefore, uses both strategies in an effort to derive the benefits of each. The evaluation of choice uses the group as the unit of analysis to

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level of analysis problem in their explanation of group decisions. Group cohesion and "groupthink" are group properties which explain collective decisions. At times, however, they emphasize the tendency for individual members to seek concurrence and use individual concurrence-seeking as the principal explanation of defective group decisions.

13. In his discussion of "group Bayesians," Raiffa (1968) formulates the problem somewhat differently. He suggests that groups may agree on the cost, benefit, and likelihood of consequences, given an underlying state. His discussion of an underlying state is compatible with Steinbruner's concept of "structural uncertainty" (1974:18).

14. The problem of cross-level inference from independent to dependent variable is quite distinct from that of an unjustified inference from an individual to a group-level independent variable which may lead to an "individualistic fallacy" in reasoning (Alker, 1969). The "individualistic fallacy" is the obverse of the better-known "ecological fallacy" or unjustified inference from a higher to a lower level of analysis (Robinson, 1970). For an extended discussion of the relationship between individual and collective properties, see Lazarsfeld and Menzel, 1961; Ray and Singer, 1973.

15. As long as a valid set of composition rules which specify the combination of component parts is unavailable, a problem of aggregation remains. Since composition rules are empirically-based generalizations, moreover, they may prove invalid under as yet untested conditions. Brodbeck (1958) suggests, therefore, that a solution to the problem can at best be imperfect and temporary.

assess the rationality of the collective decision. In Chapter 9, cabinet members are considered equally important, and probability and value statements are aggregated across individuals to the group level. Individual differences are less significant when the group decision is being evaluated rather than explained.

The detailed explanation of decision-making in Chapters 5, 6, and 7 uses the individual as the unit of analysis and aggregates preferences. Although there is no agreement on when and how to aggregate preferences, the disagreement may be less extensive than it appears. Different modes of aggregation may reflect differences in group procedures, dissimilar circumstances, and varying kinds of problems. Analysts have demonstrated that, on some occasions, members of a group avoid any formal procedures and aggregate their preferences through tacit concurrence. Under other circumstances, the same individuals have engaged in interpersonal bargaining or "averaging" amongst themselves to produce a joint decision.[16] Explanations of coalition-building do not assume complicated interpersonal comparison of utilities but, rather, individual calculations of interest which culminate in changing preferences. Aggregation occurs through joining; as individuals change their preferences and join a coalition, they create a majority decision. Finally, members of a group may ignore problems of distortion and rely on simple procedures of majority voting. This is the standard practice of Israel's cabinet, where the preferences of individual members are tabulated formally to produce a collective decision. To explain the three group decisions of 23 May, 28 May, and 4 June, this study aggregates the processes and preferences of individual members within the group. No particular pattern of aggregation is assumed; in each of the three decisions, empirical investigation must establish the procedure and timing of aggregation which produced the collective choice.

Although individual processes and preferences are the focus of explanation, the analysis includes both individual and group-level variables. Because individuals may behave differently in a group than they would alone, the study draws on group-level variables which may affect the final choice through the critical intervening variable of individual performance of decision tasks. Thus, the beliefs of individual members and their perceptions of their immediate environment are supplemented by the

16. Janis (1972:127) reports the rather bizarre use of such a procedure by officials responsible for national security. Every request by military commanders to bomb targets in Vietnam was submitted to President Johnson's "Tuesday Lunch Club." Members of this advisory group processed the request with a checklist which required them to evaluate the military advantage of striking the proposed target, the risk to American aircraft and pilots, the risk of military escalation, and the cost of civilian casualties from the proposed sortie. Each participant graded the proposed targets in the four categories, and the final choice was made on the basis of averaged grades.

group-level variables of strategic argument as relevant collective beliefs and coalition-building or bureaucratic politics. Individuals within a group may listen to discussion, hear new evidence, debate different estimates, exchange information about each other's preferences, or avoid controversial issues and subject each other to considerable pressure to conform. Group as well as individual variables become important components of the explanation of the decisional activity of central members within a group who must produce a collective choice.

Because the evidence that decisionmakers provide is so important in determining the processes they used and in establishing the pattern and timing of aggregation, special attention must be paid to the quality of that evidence if threats to the validity of explanation are to be reduced.

Criteria of Evidence

The record of debate and discussion among policymakers provides the analyst with invaluable evidence to reconstruct the process of choice. Unfortunately, official records frequently are not declassified for thirty years, and scholars who wish to examine more recent processes of choice must turn to sources that may be less valid. In this study the number of decisionmakers ranges from two to twenty-one across all decisions, and the unofficial record of their discussions is of varying quality. A major source of evidence is the public statements issued by decisionmakers during the process of choice and their private statements which have been subsequently published. Evidence collected for this study includes all official transcripts of the speeches by participating decisionmakers in the period preceding each decision and additional verbatim accounts published subsequently in the local press. These primary historical sources may not provide a sufficient basis for valid inference. Decisionmakers who are in the process of evaluating options are often circumspect in discussing these alternatives and their likely consequences in public; this is especially likely to be the case in a national security crisis. Frequently, there is a tendency to rely too heavily on formal documents in reconstructing a decisional process because of the difficulty of access to official records of group discussion (Holsti, 1976).

A second source of evidence is *ex post facto* reconstruction of the decisional process by policymakers themselves. One obvious source is private and public interviews. All the principal decisionmakers in 1967 have granted extensive public and private interviews, both in English and in Hebrew.[17] Five years after the war, several members of the cabinet

17 The transcripts of all public and privately available interviews are used to reconstruct this decision-making process. An additional study which had unique access to generally unavailable primary sources is also a valuable source of evidence. Brecher (1975) interviewed the principal participants and saw many relevant documents of the Foreign Ministry. This

granted commemorative interviews which are important sources in the reconstruction of the process. Also of interest was an anniversary symposium held by members of the General Staff where they discussed issues of principal concern to military decisionmakers in the weeks preceding the outbreak of war. The director of Military Intelligence, General Yariv, participated as did others who were senior commanders during 1967

Decisionmakers also provide valuable reconstructions of the decision-making process in the autobiographies and memoirs which they publish after retirement from office. Minister of Defense Dayan (1976), Foreign Minister Eban (1977), General Rabin (1979), then chief of staff, and General Weizman (1976), then chief of operations in the army, have all written their autobiographies. Prime Minister Eshkol kept a diary and extensive records of meetings and discussions.[18] Minister of Labor Allon (1970) has written in considerable detail of the debates during these days in his history of Israel's army.

There is a potential threat to valid inference in reliance on such after-the-fact recollection. With an eye on history, leaders may distort their opposition to or support of particular positions that are subsequently accepted. The postdecision rationalization that may be built in to autobiographical evidence may, paradoxically, exaggerate the extent of bolstering and inconsistency-management in a process of choice. The researcher cannot escape the contradiction that data collected after choices are made are used to reconstruct predecision activity. This study treats this type of evidence, therefore, with circumspection. When several of the participants agree, however, on the reconstruction and order of group discussion and when evidence from multiple primary sources converge, the evidence can provide a valid basis for inference. Fortunately in this case, arguments among the participating decisionmakers focus on interpretation rather than on reconstruction of important decisions. Even though official transcripts of executive sessions are not yet available under a thirty-year rule, available evidence shows considerable agreement among decision-makers about who said what to whom and when it was said. This reconstruction of the decision-making process in 1967, therefore, relies almost exclusively on primary sources.

Criteria of Explanation

When the appropriate levels and units of analysis have been established,

study relies on the citation of these documents and uses the transcripts of the interviews which Brecher graciously made available.

18. The diary and appointment book of the prime minister was updated each day and not subject, therefore, to *ex post facto* bias. While not publicly available, it was seen and cited extensively by Geist (1974) in an unpublished doctoral dissertation. Where the published primary record is still incomplete, this study draws on the diary as cited by Geist.

criteria of admissible evidence specified, and concepts made operational, the student of decision-making faces the most difficult task, that of setting the standard of a valid explanation, What kinds of causal inferences can be drawn from evidence of a single case? Some would argue that no causal explanation is possible when evidence is restricted to one case which, moreover, is not subject to the control of the investigator. Students of national security decision-making are only rarely able to design experimental or quasi-experimental research subject to stringent controls.[19] To determine the validity of the explanation they offer, however, they can examine the fit between what they expect and what they find, and they can "trace the process" through which cause creates consequences (George, 1979).[20]

When analysts examine congruence or fit, they attempt to establish the necessary and sufficient conditions in an explanation. To explain the choice of a particular option, for example, they may argue that the strategic assumptions made by decisionmakers are the antecedent cause. To assess the validity of this explanation, analysts can perform "mental experiments" to ascertain whether such a choice could have been made if decisionmakers had held different assumptions. They must also consider the related possibility that other, quite different, variables might explain the choice of option equally well if not better. To establish the validity of an explanation, analysts must do a mental run-through of competing possibilities. If the particular strategic assumptions were indeed necessary, analysts must still determine whether this set of beliefs was congruent with other options as well. To the extent that a cause is congruent with a consequence and only that consequence, it provides a powerful explanation. When a set of assumptions or beliefs is congruent both with the option that was chosen and with others as well, even though these beliefs may be a necessary condition, they provide a far less powerful explanation of the choices decisionmakers make.[21] Given the complexity of choice, moreover, it is unlikely that any single variable will prove both necessary and sufficient.

A more direct approach to causal inference, and one which is particularly suited to single case analysis, is "process-tracing." Analysts examine how a series of necessary conditions work together to produce a

19. The inability to design quasi-experimental research would not be considered a serious drawback within the phenomenological tradition. Controlled variation of cause to determine effect is consistent with a nomothetic-deductive mode of explanation. A concept of self-explication as the basis of explanation is inconsistent with such a deductive mode and requires explanation based on idiographic assumptions. Without fully entering the complicated debate, a strictly deductive explanation is not fully consistent with the subjectivist bias that animates this study.

20. George (1979) provides the best discussion of causal inference in a single case. He develops strategies of "congruence" and "process tracing" to validate explanations of decision-making and proposes the technique of mental experimentation to introduce controlled variance. See also Campbell, 1975; Eckstein, 1975; and Lijphart, 1971.

21. In formal terms, A is a necessary condition of B when B is always preceded by A. A is a necessary and sufficient condition when B is always preceded by A and only A.

particular decision. They trace the process through which beliefs, or perceptions of time and threat, or group dynamics, or all three together, explain the choice of one rather than another option. To do so, the analyst establishes the impact of these factors on critical decisional tasks that precede choice. The principal drawback to "process-tracing" as a mode of explanation is the extensive data it requires; indeed, it is so rigorous in its requirements that it all but precludes multiple-case analysis. Its weakness is also its strength, however, since process-tracing produces a rich and detailed exposition of how a decision was made.

This study uses both "congruence" and "process-tracing" as complementary approaches to explanation. Process-tracing is perfectly suited to the reconstruction of the decision-making process which is the core of the explanation.[22] Its extensive data requirements are not additional but central in the explanation of the path to choice. Congruence is a valuable supplementary technique, however, in establishing the validity of a process explanation of choice.[23] Before one process can explain a choice, it must first be demonstrated that no other process could have produced that choice that way.[24] Especially where evidence is incomplete, alternative processes must be eliminated; a "mental experiment" with competing explanations is a particularly useful method of doing so.

Equally important, reasoning through congruence can establish the importance of process as an intervening variable in any explanation of choice. If the content of beliefs, or perceptions of threat and pressure of time, could have predicted the choice of one option and only that option, then the detailed exposition of process is an unjustified expenditure of scarce research resources. This study expects that process is a necessary intervening variable. While validating a process explanation, moreover, the independent role of belief systems, situational perceptions, and group dynamics is assessed. Competing and complementary explanations must be considered to assess the importance of process as a mediating variable in the explanation of choice.

Summary

This rather lengthy discussion of multiple paths to choice and the basis of inference and evidence was a necessary preliminary to the explanation of

22. Insofar as the reconstructed decision-making process relies on the evidence of participating decisionmakers, process-tracing as a mode of causal explanation is consistent with phenomenological assumptions. This is not so of the nomothetic-deductive mode.

23. George (1979) suggests that process-tracing be used to validate causal inferences established through congruence. This study proposes to validate relationships established through process-tracing by eliminating explanations that do not provide either necessary or sufficient conditions.

24. Brehm and Cohen (1962) argue that, even in experimental conditions, it may be impossible to determine whether an effect is caused by cognitive dissonance or whether it is the result of rational rules of decision which produce the same result as nonrational cognitive rules. This is so when an explanation is validated only through congruence and not supplemented by process-tracing.

Israel's decision-making process in 1967 This process includes a sequence of five major decisions over a period of nineteen days in May and June. After a short precrisis phase, the decision process unfolded when leaders perceived a major threat to national security and limited time for response. Egyptian actions, which were the stimulus to decision, challenged basic concepts of deterrence worked out in the decade prior to the onset of the crisis. Since Israel's leaders defined their problem as one of national security, the decision points selected for examination are those in which an option to use force is considered: the decision on 16 May to mobilize partially; the choice on 19 May to mobilize on a large scale; the two decisions on 23 May and 28 May to postpone the use of force; and the decision of 4 June to preempt.

Before beginning the empirical examination of Israel's decision-making process in 1967, it is useful to restate briefly the two basic concerns which guide the investigation. First, decisionmakers do not follow a single path all the time for all kinds of decisions. Rather, they respond to the changes they perceive in their environment by changing their decision process. No single explanation of decision-making can encompass the variation in policymakers' responses to different decisional environments under dissimilar circumstances. The question is not "which strategy?" but "which strategy when and why?" The student of national security decision-making is particularly interested in when and why decisionmakers use any variant of an analytic process, either in the first instance or as a response to dissatisfaction with earlier decision strategies.

Second, just as decisionmakers vary their procedures over time in a sequence of choices, so they develop flexible and adaptive procedures to make a single decision. Current explanations of any individual decision may be somewhat limited in the face of evidence which suggests that decisionmakers combine elements of cybernetic, cognitive, and analytic processes. In particular, four hybrid paths to choice (Paths 2, 4, 5, and 7) have been suggested as likely routes to choice. Decisionmakers may reach a cybernetic decision with a mixture of cognitive and programmatic procedures (Path 2); they may arrive at simple decisions through a combination of cybernetic and cognitive processes (Path 4); they may make much more complex decisions if they incorporate analytic search with cognitive evaluation (Path 5); and they may optimize even if analytic revision and evaluation are constrained by cognitive search (Path 7). These hybrid decisional paths may provide a better reconstruction of the processes decisionmakers use. Although these paths are less coherent and more complicated than those articulated by cybernetic, cognitive, and analytic explanations (Paths 1, 3, and 6), they may be more useful in illuminating the procedures policymakers actually use.

If this is indeed the case, the evaluation of choice must incorporate

modifications in the explanation of decision. Various combinations, for example, may produce decisions of differential quality. Are choices based on simple single-value calculation less desirable than those based on programs carefully planned in advance? Are more complex choices which result from lexicographic decision rules preferable to those based largely on prepared routines? To make one choice, leaders may begin analytically but revert to a strong emphasis on central beliefs. The same policymakers may make a second choice through an analytic process constrained by cognitive search. Although in both cases decision-making would be neither cognitive nor analytic but a hybrid, whether a process is analytic-cognitive or cognitive-analytic may have important consequences for the quality of the choice individuals make. Careful distinction among several versions of constrained rationality is essential to both the explanation and the evaluation of choice. Rationality may be constrained in very different ways with very different policy consequences.

Answers to these questions go to the heart of the debate on the quality of choice and the processes that produce it. Before undertaking the explanation and evaluation of the paths to choice taken by Israel's decisionmakers in 1967, this study makes one last detour to consider the substance of the logic available to policymakers. In Israel, strategic concepts have been the object of extensive debate and discussion ever since the creation of the state in war. On a matter of national security, leaders are likely to draw on these concepts to structure their definition of the problem and their processing of choice. The quality of strategic argument is not academic for Israel's leadership. To reconstruct the processes of choice on issues of national security, analysts must examine the structure and content of the strategic arguments decisionmakers use.

part two

Decision-making in Israel, 1967

chapter **4**

Deterrence and Defense
The Logic of Strategic Argument

Introduction

This chapter examines the logic of strategic argument and its impact on the process of choice. Of particular concern is the relationship between the completeness and coherence of strategic concepts and different forms of constrained rationality. Two basic components of strategic argument are the concepts of deterrence and defense. Concepts of deterrence examine the use of the threat of force to prevent the leadership of another state from choosing to attack and emphasize the threat of punishment, rather than the use of force, to persuade an opponent that the risks of an attack would outweigh its possible benefits. Concepts of defense explore ways to ensure military security by reducing the cost of an attack should deterrence fail.

Strategic concepts like deterrence and defense are especially relevant to leaders who perceive permanent or ongoing hostility in their environment. When leaders charged with responsibility for national security perceive enmity, they consider an attack by their adversary as possible and, at times, as plausible. In response to a rooted perception of permanent conflict, they concentrate on deterring, if possible, and defending, if necessary, against an anticipated attack.

At times leaders suspect that their opponent is actually considering immediate action and, concentrating on intention rather than capability, they threaten the use of force to influence their adversary's calculations. Even in acute conflicts, however, such instances of "immediate deterrence" are relatively rare; much more frequent is a situation of "general" deterrence (Morgan, 1977:28). Leaders emphasize their adversary's general desire to attack rather than an imminent plan to do so, and they expect an attack only when their opponent considers the balance of capabilities to be favorable. Consequently, decisionmakers focus their attention on the capabilities of their adversary and try to maintain an effective force posture.

Frequently, leaders have extended the concept of deterrence beyond the single contingency of a direct military attack to try to prevent other kinds of actions. Patrons have attempted to deter an attack on clients, or alliance members have organized both to forestall an attack on any one of their group and to defend each other should deterrence fail. Decisionmakers also have tried to protect interests they consider important by threatening the use of force if these interests are violated. Open sea lanes, the status of nationals abroad, access to resources—all these have been the object of deterrent strategies at different times in history.

Strategic concepts of deterrence and defense can affect the making of national security decisions both directly and indirectly. Developed over time and frequently the subject of considerable discussion and debate, these concepts come to be widely accepted by political leaders. When confronting difficult decisions, policymakers may draw directly on strategic concepts to make their choices. They may also use strategic concepts to process information and to evaluate available options. The logic of strategic argument is important to those responsible for national security, and increasingly this logic has been the object of considerable criticism (George and Smoke, 1974; Jervis, 1978, 1979; Knight, 1973; Morgan, 1977; Salmon, 1976; and Steinbruner, 1976).

Strategic arguments are constructed as a set of causally connected propositions. Beginning from an axiom of human rationality, these propositions explain the causal antecedents of the choices made by each side in a conflict. Causal logic is at the heart of strategic thought and its contingent predictions; policy is read as the consequence of specified causes and careful calculation by unitary rational actors on both sides. Strategic concepts like deterrence imply rational choice as a consequence of causal logic.

Just as the rationality of the choice that leaders make can be evaluated, so the logic of causal argument that they use can be assessed.[1] Two widely used standards of evaluation of the logic of an argument are the exhaustiveness of its content and the coherence of its structure, but these standards must be adapted to the context of strategic argument. If an argument is logically exhaustive, it considers all possible contingencies in the specification of cause and effect. While exhaustiveness may be an appropriate standard when the universe is well-defined, it is too rigorous for arguments which organize a structurally uncertain environment. Arguments also are considered complete if the set of interrelated propositions omits no important causal factor (Brodbeck, 1958:12).[2] Even

1. See Chapter I for an extended discussion of the evaluation of the logic of argument.

2. This criterion of completeness draws on Hospers's treatment of "defining" and "accompanying" characteristics. Defining characteristics are those "without which the thing would not be labelled by a certain word. Those characteristics of a thing without which

this criterion may be too demanding, however, given current imperfect and partial explanations of strategic dilemmas and decisions.

For purposes of this study, a complete strategic argument is one which omits no recognized and important factor in the consideration of challenge and response. There are at least five such essential or defining factors and, if any of these factors are excluded, the logic of the argument is seriously flawed. Second, strategic arguments can be considered coherent if these factors are related as a set of consistent propositions which are not contradictory. These two criteria of completeness in content and coherence in structure together determine the logical quality of strategic argument.

Before an exploration of the particular concepts of deterrence and defense developed and accepted by Israel's leaders and planners, some clarification of terminology is in order.[3] In the discussion which follows, the terms "strategic beliefs," "strategic concepts," and "strategic assumptions" are used interchangeably to refer to the concepts leaders use to organize their environment. "Strategic doctrine" or "strategic argument" refers to a set of causally-linked concepts; an argument or doctrine orders several concepts in a relationship. Finally, a brief review of the five essential factors in logically complete and coherent concepts of deterrence and defense is a useful prelude to the examination of strategic thought in Israel. General criteria developed to consider the logical quality of strategic argument can then be applied to an evaluation of Israel's strategic doctrine.

Deterrence and Defense: The Logic of the Argument

To be judged complete, strategic concepts of deterrence and defense must examine at least five factors.[4] They must include some valuation of the interests at stake, specification of the challenge to be deterred, examination of an adversary's calculations of the suitable conditions and available options to challenge, consideration of the credibility of a commitment to respond, and discussion of defense or appropriate responses to the failure of deterrence. To be considered coherent, strategic doctrine must order and interrelate these five factors in a set of propositions that are consistent in their specification of cause and consequence.

First, a concept of deterrence must consider the value of the interests at

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the word would still apply to it are its accompanying characteristics" (1953:26). Hospers establishes criteria for completeness of definition whereas evaluation of the logic of argument concerns the closely related problem of completeness of specification.

3. These terms are discussed in Chapter I where distinctions among them are considered.

4. George and Smoke's seminal examination of conventional deterrence pays a great deal of attention to attempts by third parties to protect client states. Because the present inquiry considers conventional deterrence in a bilateral relationship, the criteria specified by George and Smoke are not directly applicable. Consequently, this study develops its own requirements for a complete and coherent concept of deterrence. These logical requirements should be distinguished from empirical evidence of the conditions necessary and sufficient for the success of deterrence.

stake as well as the cost of their protection in comparison with the anticipated cost of their loss. If the object of deterrence is a conventional military attack, the results of the valuation are frequently obvious. When the interests at stake are more differentiated and range across a series of contingencies, the calculations become somewhat more difficult. Yet, such a careful examination is a necessary component of a logical strategic argument. Precisely when calculations are difficult, strategists may ignore the cost of fulfilling a commitment when they initially formulate their intention to deter.

This requirement suggests criteria that can be used to examine the development and application of specific concepts of deterrence to assess the logic of argument. First, the valuation of interests that must precede the commitment to a given state of affairs can be scrutinized. Did the concept distinguish what was important to deter, what was worth trying, and what was beyond the scope of deterrence? Was the strategic argument delimited? Then, did leaders or strategists define, weigh, and rank the interests they considered important or vital? Did they weigh the cost of protecting their interests against their value? Did they consider the interconnectedness among interests before committing themselves? Before attempting deterrence, did they include in their analysis the cost of fulfilling commitments should deterrence fail? If deterrence were to fail, is the cost of available policy options commensurate with the value of the interests at stake? A coherent and complete concept must begin with an analysis of the scope and value of intrinsic interests.

Second, once leaders have decided to try to deter, they must signal intent to do so to a potential challenger. Logically, they must communicate a commitment to a specific state of affairs if they wish to preserve it.[5] If adversaries are to be persuaded to refrain from actions that threaten vital interests, they must know the broad limits of unacceptable action. While communication of credible intent is logically necessary, it is neither easily done nor sufficient to ensure the success of deterrence. Some evidence suggests, for example, that either narrowly or broadly specified commitments may at times provoke challenge. When the scope of deterrence is broadly defined, commitments may be less credible, but when deterrence is narrowly focused, challenges may be provoked in those areas that are omitted. Adversaries are encouraged to "design around" a rigorous commitment to maintain a specific set of conditions (George and Smoke, 1974:65).[6] Specification of commitments becomes especially important

5. Lockhart (1978) distinguishes between commitment to a certain state of affairs and commitment to a particular course of action to preserve that state of affairs. Very often, several courses of action may show some promise of preserving a particular set of conditions. This second requirement addresses only the commitment to a set of conditions.

6. The advantages of narrowly and broadly defined deterrent strategies and the obstacles to clarity and credibility have been the objects of extensive investigation. George and Smoke

when deterrence is designed to do more than prevent military attack. And even when commitments are clearly formulated, an opponent may still misperceive and miscalculate. If commitments are not carefully considered and clearly explicated, however, a concept of deterrence is flawed.

Third, a concept of deterrence assumes an adversary who calculates efficiently and is sensitive to changes in probabilities, cost, and benefit. If defenders are to achieve their objectives without escalation and the resort to force, a challenger must be able to estimate the likelihood and the consequences of retaliation. Even if the standard of rationality is relaxed somewhat to accommodate psychological evidence, deterrence requires that a challenger at least approximate analytic procedures and rational choice. At the minimum, each set of leaders is expected to understand the other's calculus. Each must understand the intentions of the other and the options and resources available to both. Deterrence implies interdependent and analytic decision-making.[7]

From this requirement of interdependent and analytic decision-making flow criteria of a complete and coherent argument. Logically, strategic doctrine must include an examination of the intentions of an adversary and the options and resources a challenger can use. A concept of deterrence must investigate the conditions under which a challenge becomes likely. It must include an examination of the incentives that motivate an adversary and specify the factors likely to produce a change in the cost-benefit

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(1974:560-567) examine the application of broadly and narrowly specified strategies and review the consequences. Obstacles to credibility are analyzed by Schelling (1960, 1966), and Jervis (1976) examines the problem of clarity of signals.

7. Partly in response to the disturbing psychological evidence of constrained rationality, analysts have suggested recently that rationality may be neither logically necessary nor sufficient for deterrence to succeed (Morgan, 1977 and Jervis, 1979). Morgan suggests that, if leaders were perfectly rational, then no situation of immediate deterrence would arise. The defender accurately estimates the cost-benefit calculus of the challenger, threatens punishment to influence that calculus, and develops the military capability to make the threat credible. The challenger also calculates cost and benefit accurately, estimates correctly that the defender is prepared to retaliate, and concludes that an attack is unacceptably expensive. A fully rational challenger never considers attack, and a completely rational defender never needs to deter. The thrust of Morgan's argument is not that rationality is unnecessary to deterrence, but that it makes deterrence unnecessary.

The argument applies, however, only to immediate and not to general deterrence. On the contrary, a threat to punish is credible only when it is reinforced by the requisite military capability to implement the threat and withstand the anticipated response of the challenger. Immediate deterrence becomes irrelevant only if general deterrence succeeds; yet the success of general deterrence requires careful calculation of comparative capabilities and relative cost and benefit. Except when capability differences are large and obvious, deterrence cannot succeed without some approximation to rationality.

More relevant is the contention that irrationality may make the success of deterrence more likely. Irrationality on the part of a defender becomes an asset in deterring a challenger who fears an irrational response. This argument has been applied principally to deterrence of nuclear attack: the threat to launch a counter-city strike after an adversary has preempted is credible only if the defender is irrational. As analysts have noted, however, issuing an irrational threat under these circumstances may be rational. When deterrence is applied below the nuclear level, the asymmetry between cost and interest is reduced, and uncertainty rather than irrationality reinforces deterrence.

calculus. Does the analysis address those actions which may provoke an opponent as well as those which may deter a challenge? Critical is the investigation of those conditions which may lead to a challenge. If the concept of deterrence does not specify conditions for its failure, than it is difficult to know when and why deterrence may fail.[8]

A concept of deterrence must examine not only the intent of a challenger but also the range of options available and the impact of capabilities on the likely use of one or another. Especially when force is conventional rather than nuclear, a challenger disposes of a wide variety of options ranging from limited probes to full-scale military action.[9] The variety of options is reinforced by the multiple uses of conventional military capabilities.

A complete concept of deterrence must consider a large number of possible and plausible actions that could challenge deterrence. A coherent doctrine must examine the relationship between capabilities and intent as an indicator of the likelihood and type of challenge. Strategic arguments vary in the significance they attach to capabilities in comparison with intent in estimating the probability of deterrence failure.[10] The relative weight of each must be assessed and different thresholds of capabilities related to the alternatives available to a challenger. This is difficult to do because conventional military capabilities may be used for so many purposes unrelated to a direct challenge. Logically, however, a complete and coherent doctrine must examine levels, kinds, and deployment of capabilities by a potential challenger, relate these to the range of available options, and consider the relationship of capabilities to intentions to estimate the likelihood of deterrence failure.

Fourth, if deterrence is to succeed, leaders must make credible their intention to retaliate if challenged. An argument of deterrence depends on raising an opponent's estimate of the probable cost of a challenge by increasing the expected cost of retaliation. While a credible commitment to respond is a logical necessity, its formulation and communication are difficult. Credibility is a function of both the form and the content of a commitment. When a challenger considers the intrinsic interests at stake to be vital to the defender, the particular formulation of a commitment is not likely to be terribly important in establishing its credibility. The formulation and communication of a threat to retaliate if home territory is

8. See George and Smoke (1974:480-481) for a discussion of "conditional predictions" regarding deterrence failure.

9. George and Smoke (1974:54) develop this argument at greater length. Given the large number of options available to a challenger, they question whether a "rational" concept of conventional deterrence can be developed. They suggest implicitly that the scope of contingent possibilities is so great that a single concept cannot meet the criteria of completeness and coherence.

10. Capabilities refer to the military resources usable for a challenge to deterrence. Intention concerns the political plans of leaders to challenge deterrence. Warning of deterrence failure includes an analysis of the relationship between capabilities and intent.

attacked are unlikely to significantly affect its credibility. When the value of the interests at stake is less obvious to either side, designing and signaling a credible commitment are more important and more difficult.

A complete and coherent strategic argument discusses the advantages of flexibility and commitment under different circumstances. At times, commitment to a particular response may strengthen the credibility of a deterrent threat while, under other conditions, deliberate ambiguity and flexibility may enhance the likelihood of successful deterrence.[11] A flexible response may be appropriate when evidence of likely deterrence failure is ambiguous but less so as the probability of a challenge grows. A related issue is the appropriateness of threatening a response which is disproportionate to the value of the interest at stake. Analysts of deterrence have suggested that, under certain circumstances, it may be rational for leaders to threaten a course of action they would otherwise not choose had they not committed themselves to do so. In a strategy of the "rationality of irrationality," decisionmakers acknowledge the imbalance in the cost-benefit calculation, but commit themselves to respond if they consider the interest important though not vital and see no other way of deterring a likely challenge.[12] To be judged logical, strategic arguments must specify the circumstances under which such a threat is appropriate and examine its risks should deterrence fail. More generally, a concept of deterrence must establish the form and content of a credible commitment to retaliate if deterrence is challenged.

Finally, strategic concepts must design responses appropriate to different kinds of challenges and roughly specify the required capabilities. A coherent and complete doctrine must canvass likely challenges and their relationship to available policy responses and assess the cost effectiveness of different options under varying circumstances. As the number of options increases for both the challenger and the defender, systematization becomes difficult and important. Closely related is an analysis of the kinds of capabilities necessary for the implementation of any given policy option. Can policymakers, working with strategic concepts, distinguish relevant from irrelevant capabilities in the design of effective deterrent responses? How closely are different kinds of capabilities related to the use of different options in response to different kinds of challenges? In Berlin during 1961 and in Cuba in 1962, for example, multiple options and ambiguous decision rules explain the largely *ad hoc* attempts by the United States to reinforce deterrence. Strategic concepts did not specify criteria for deciding

11. Lockhart (1978) discusses the advantages of flexibility and commitment as do George and Smoke (1974:560-567) and Snyder and Diesing (1977:245-254).

12. Maxwell (1968:2) examines the logic which underlies a strategy of the "rationality of irrationality" at the nuclear level, but the strategy can be applied at the conventional level as well.

whether, when, where, and how to threaten or use force (George and Smoke, 1974:42-43).

This fifth requirement also would include an analysis of the appropriateness of various responses to different indications that deterrence may fail. Warning of a likely challenge must be related systematically to the options of a defender over time; different options may be appropriate as warning of the likelihood of a challenge grows.[13] To be coherent and complete, strategic doctrine must identify, scrutinize, cost, and relate the range of relevant options to the appropriate challenge under variable conditions. Since concepts of deterrence applied at the conventional level are highly context-dependent, such an examination is particularly important.

These five criteria can be used to evaluate the logical quality of specific strategic concepts and arguments. Strategic concepts must consider what is worth protecting before prescribing deterrence, formulate and communicate the scope of unacceptable challenge, analyze the calculus and options of a challenger, establish a credible intent to respond to challenge, and design responses appropriate to different kinds of challenge under variable conditions. Skeptics may counter that these standards of completeness and coherence are overrigorous and unlikely to be met. In reply, those preoccupied with the evaluation as well as the explanation of policy can insist that these criteria are implicit in and flow from the general concept of deterrence. No more is expected than the concept itself requires. Second, even though a particular strategic argument may not fully meet these standards, the degree to which it approximates norms of completeness and coherence is important in the explanation and evaluation of choice. Strategic arguments differ in their specification of the conditions under which deterrence is appropriate, in their examination of possible and plausible challenges, in their analyses of central relationships among important strategic concepts, and in their evaluation of the contribution of alternative options to effective deterrence under changing conditions. Since leaders frequently draw on these arguments to define the substance of strategic dilemmas, their logical quality is an appropriate object of evaluation.

The logic of strategic arguments affects not only the performance of early decisional tasks but also the subsequent processing of choice. After leaders diagnose a problem for decision, they may continue to draw on strategic concepts to search, revise, evaluate, and choose. Strategic assumptions, serving as cognitive premises, can organize and constrain decisional activity. Because the degree of completeness and coherence may predispose leaders to follow either cognitive-cybernetic or cognitive-analytic paths to

13. George and Smoke (1974:567-587) consider this linkage as "warning-response."

choice, the quality of strategic logic can affect the particular form constrained rationality takes.

Completeness and coherence in strategic argument may induce leaders to use these arguments as programs for choice. In an attempt to make deterrence credible, for example, strategic doctrine may specify the action to be prevented and the response to follow if deterrence fails. The response to the stimulus is specified before the fact as leaders foreclose their options in an attempt to make commitments more credible. Decisional activity is circumscribed by available arguments, and processes of choice are short-circuited. Strategic concepts may, however, specify the action to be deterred but leave the level and scope of the response ambiguous. This imprecision may be designed deliberately to increase the credibility of deterrence by preserving rather than preempting the options of policymakers. Leaders may wish to reserve freedom of choice until the scope and direction of a challenge is unambiguous. If strategic doctrine does not specify a precise response, then decisionmakers cannot process their choice through programs. Since strategic arguments are rarely fully complete and coherent, policymakers generally use some other path to choice.

Even if strategic arguments are not fully logical, the more closely they approximate norms of completeness and coherence, the more likely some variant of an analytic process of decision.[14] If, for example, strategic concepts include a list of relevant capabilities and multiple indicators of an opponent's intentions, an analytic process of inference is more likely. If concepts provide several rather than single indicators to estimate intent, policymakers are less likely to ignore or discount the significance of changes in these indicators should they occur. Fuller or more complete concepts can guide leaders in the use of indicators to improve the quality of inference.

Similarly, complete and coherent strategic arguments may make an approximation of analytic evaluation and choice easier for participating policymakers. Concepts which include a number of available alternatives and which examine their advantages and disadvantages under different circumstances can reduce the difficulty of evaluation of alternatives in a complex environment. Insofar as strategic doctrine isolates and highlights a trade-off between values, leaders may find it difficult to bolster support for a preferred option and defend it as the best on all possible grounds. The

14. The relationship between the logic of organizing concepts and the processes decisionmakers use may be curvilinear. If concepts are fully complete and coherent, some variant of cybernetic choice is likely. When concepts are simple, one-dimensional, and partial, a severely constrained process of choice is likely. As concepts become more differentiated, complete, and coherent, the probability of an analytic component in the process of choice increases.

salience of value complexity increases, and analytic evaluation becomes more likely.

Strategic concepts which include consideration of multiple indicators and conflicting values increase the likelihood that choices may be analytic though constrained. The powerful impediments to analytic processing are reduced if decisionmakers can draw on arguments which are more rather than less complete and coherent. When the quality of logic is poor, however, and concepts provide little guidance for inference and evaluation, leaders will find it more difficult to translate poor logic into good outcomes. The constraints to rationality will be severe. The logical quality of strategic argument is of considerable importance, therefore, to those responsible for national security.

Israel's leaders, more than many others, have drawn on strategic concepts to organize an inhospitable environment. The status of these concepts should not be overstated; there was no official or explicit consensus on the formal content of Israel's strategic doctrine. On the contrary, strategic ideas frequently were a rather untidy amalgam of concepts and precepts which were not universally held or officially sanctioned. Israel's leaders did refer to these precepts, however, when they diagnosed a challenge to national security. Especially when the margin for error is small, as it was for Israel's decisionmakers, the quality of strategic logic is particularly important.

The Dilemmas of Israel's Strategic Environment

Israel's strategic environment imposed greater than usual constraints on the choices available to policymakers. Neither the perception nor the reality of permanent hostility is unique to Israel's decisionmakers; in diplomatic history, interstate conflict is much less the exception than the rule. The conflict in the Middle East, however, is extraordinarily compressed in space and time. Air distances between Israel's principal cities and those of the closest Arab states are extremely short: only 75 kilometers between Jerusalem and Amman, 160 kilometers between Haifa and Damascus, and 435 kilometers between Cairo and Tel Aviv When warfare is conventional, short distances increase the consequences of attack and the cost of defense. With little depth, a defending army has greater difficulty absorbing an attack before unacceptable damage is inflicted on major population centers.

Not only is strategic space limited, but strategic distances and resources are asymmetrical in the military geography of the Middle East. Before 1967, Israel had the lowest ratio of territory to borders in the Middle East.[15]

15. The ratio of territory in square miles to borders in miles for pre-1967 Israel is 13:1 and 86:1 after 1967. Comparable figures for Syria after 1967 are 57:1, Egypt, 239:1, Jordan, 39:1, and Lebanon, 18:1. Cited in Rosen, 1977:12.

As former Chief of Staff and Minister of Defense Dayan observed, "The entire country was a frontier" (1955). At its narrowest point in the center of the country, the distance from the Mediterranean to the Jordanian border on the West Bank was only 15 kilometers. The capital city, Jerusalem, was surrounded on three sides by Jordanian territory and could easily be cut off from the rest of the country by an advance of only a few kilometers. In the north, Syrian forces overlooked Israel's Hula Valley which is only nine kilometers wide at its base. In the south, an advance by the Egyptian army of less than 20 kilometers could create a land bridge between Egypt and Jordan and isolate Israel's southern port of Eilat. None of the three borders, moreover, provided natural or topographical advantages for defense. Israel's military geography was a strategist's nightmare.

The striking asymmetry in the population base of Israel and neighboring Arab states has been the object of extensive comment by both sets of decisionmakers. In 1948, for example, the ratio of Arab population to Israel's citizens was 50:1; the total of the Arab population in Egypt, Syria, Jordan, Lebanon, Iraq, and Saudi Arabia was 32.3 million while Israel numbered 650,000. When immigration to Israel increased in the first decade after independence, the balance shifted somewhat in Israel's favor; by 1967, the equivalent ratio of Arab to Israel's population was 20.4:1. The asymmetry in the base, however, was still overwhelming: 53 million in the Arab states and 2.6 million in Israel.[16] This differential in population was not reflected in the mobilized strength of the armed forces of the principal Arab states and of Israel.[17] The quantitative inferiority in manpower base, reinforced by long borders and a lack of strategic depth, nevertheless created an acute awareness of national security. The dilemmas of military geography and demography were so stark that concern with national security became pervasive among both civilian and military elites.

After the war in 1948, analysts began a searching examination of the requirements of Israel's security in the post-independence period. With the decreasing probability of the renegotiation of the armistice agreements to create permanent and recognized boundaries, Israel's strategic planners took an ongoing conflict as given. A high probability of a "second round" set the framework for the postwar strategic debate. Israel's decisionmakers

16. The data for the Arab states, except Saudi Arabia, come from the United Nations Statistical Office, *Demographic Year Book* (New York, 1949). The 1967 data for the Arab states are taken from the Institute for Strategic Studies, *The Military Balance 1967-1968* (London, 1968) 39-42. The statistics on Israel's population are drawn from the Central Bureau of Statistics, *Statistical Abstract of Israel* 19 (Jerusalem: 1969), 20, and do not include Arab citizens.

17. In 1967, Egypt, Jordan, and Syria fielded 272,000 regular troops, while Israel, with its fully mobilized militia, deployed 275,000. The Arab states maintain strong standing forces and make little use of their militia while Israel draws heavily on its reserve forces to support its small regular army in time of emergency. The data on troop deployment are drawn from the Institute for Strategic Studies, *The Military Balance 1967-1968* (London, 1968).

considered that, even when Arab decisionmakers were not actively considering an option to attack, their hostility persisted and they merely awaited opportunity. Indeed, Prime Minister Ben Gurion argued that Arab governments continued to wage war against Israel by "different means" (1955). As time passed, decisionmakers characterized the relationship between Israel and the Arab states as one of "dormant war" (Rabin, 1967b). The Arab claim that the 1949 armistice agreements did not imply a termination of belligerency, decisionmakers argued, forced Israel to think in terms of permanent war (Allon, 1959:15). The parameters of Israel's strategy were determined by the Arab maintenance of short-of-war belligerency (Peres, 1965:19-20). The concept of a permanent state of no war–no peace became a core concept in the doctrine of national security.

The strategic dilemma created by a perception of permanent hostility was complicated further by major strategic liabilities and few assets. The constraints imposed by the lack of geographic depth, long borders in front of shallow space, and a small population were compounded by the absence of a permanent alliance or reliable international ally (Dayan, 1955:250-251, 258). Not surprisingly, defense planners repeatedly emphasized the narrow margin of security and the small margin for error (Tal, 1976). In the immediate post-independence period, military and civilian decisionmakers debated the impact of time on this narrow margin of security. Peres, at one time a director-general of the Ministry of Defense, argued that over time the quantitative superiority of Israel's Arab antagonists would translate itself into operational success (1962; 1965:11-12, 113-117). This estimate was challenged by some military officers who maintained that time was likely to increase the effectiveness of the qualitative superiority of Israel's armed forces as technology became more sophisticated and demanding (Nevo, 1968).

In the years immediately following the armistice agreements, strategic thinking focused principally on defense. Israel's leaders had little confidence that an anticipated Arab attack could be forestalled, and army officers and strategists debated the appropriate defensive response. Some advocated a strategy of counterattack following the absorption of an adversary's first strike (Sadmi, 1956). Most, however, urged a first-strike strategy of a quick, decisive military victory gained on adversary territory (Yadin, 1959; Allon, 1959). Dayan, chief of staff from 1953 to 1956, argued that Israel could not afford to absorb a military strike; it had no territory to lose (1959). Moreover, Israel's small population did not permit a strategy of territorial defense which absorption of a first strike assumed. Laskov, chief of staff from 1958 to 1960, urged "a defensive strategy, carried out in an offensive way" (1968b). The growing attractiveness of a first-strike strategy reflected the narrow margin of security perceived by Israel's military officers and civilian planners.

Almost at the same time, military leaders began to develop a strategy of

deterrence based on the political use of force. The controlled use of force was intended to deter Arab governments from launching limited raids across the armistice lines and to compel them to cease their support of *feda'yeen* or guerrilla infiltrators. Especially after 1953, limited military reprisals were designed not only to deter infiltration but also to prevent a more serious attack by strengthening Israel's reputation for resolve (Dayan, 1959). There was considerable disagreement among Israel's leaders about this political use of force: Dayan and Ben Gurion were the chief architects of a strategy of deterrence through limited use of force while Sharett, then the prime minister, opposed both the strategy and the tactics.[18]

The success of deterrence through limited retaliation was questionable. Especially along the border with Egypt, reprisals grew in scope until the raid on Gaza in February 1955. Indeed, this limited use of force may have contributed to a substantial increase in tension.[19] By the middle of the decade, Israel's leaders felt a growing sense of threat (Dayan, 1966). Two years earlier, Egypt had imposed restrictions on Israel's shipping but, in September 1955, President Nasser instituted a complete blockade of shipping through the Gulf of Aqaba to Israel's southern port of Eilat. Concurrently, on 27 September, Egypt concluded an arms agreement with Czechoslovakia and began to receive massive shipments of Soviet and Czech military equipment; the increased level of arms supply threatened to shift the balance of military capabilities heavily in Egypt's favor (Dayan, 1966). In October of 1956, the Egyptian Third Infantry Division, stationed in the Sinai desert between el-Arish and Abu Ageila, shifted from defensive to offensive deployment and, on the twenty-third of the month, the chiefs of staff of the Egyptian, Syrian, and Jordanian armies established a unified command under General Amer of Egypt. Long before these changes in Egypt's military posture, however, Israel's leaders began to consider seriously a preventive strike. In the autumn of 1956, Israel's prime minister and chief of staff met with French officials to finalize plans for an offensive and, on 29 October, Israel launched a preventive attack.[20]

18. Disagreement on strategy and tactics was considerable in this period preceding the Sinai campaign. At the political level, the principal protagonists were David Ben Gurion and Moshe Sharett. Sharett discussed the strong disagreement with Ben Gurion in his diary entries of February and March 1955. See Sharett, 1955a, 1955b, and 1957. In the General Staff, Dayan strongly supported the limited use of military force to create a credible deterrent reputation. See Dayan, 1959. For an analysis of the civilian cleavage, see Brecher, 1972:251-290. For a discussion of the military debate, see Luttwak and Horowitz, 1975:71-137.

19. Some analysts suggest that the strategy of compellence through reprisal did have limited success. For a detailed analysis, see Blechman, 1972. More recent evidence, drawn from official Egyptian and Jordanian intelligence records captured in wartime, suggests that the Gaza reprisal in particular was escalatory rather than deterrent in its impact. Humiliated by the scope of the attack, Egypt's leaders increased their involvement in *feda'yeen* activity, and the growing cycle of violence culminated in full-scale war the following year. For a presentation of the original Arab intelligence documents, see Ya'ari, 1975.

20. A detailed examination of the strategic issues which Israel's leaders considered is beyond the scope of this study. The most comprehensive treatment by a principal participant

Only after the military victory in the Sinai—and the subsequent withdrawal in response to American and Soviet pressure—did Israel's concept of national security crystallize (Tal, 1976). Increasingly, military decisionmakers accepted the hypothesis that qualitative superiority would compensate for quantitative inferiority (Weizman, 1976). The margin provided by qualitative superiority permitted the acceptance of the territorial status quo and the full development of a strategy of deterrence (Dayan, 1959; Laskov, 1960; and Rabin, 1967b).

Deterrence could only develop as one of the two fundamental concepts of national security when the deterring power wished to maintain the status quo and felt capable of doing so. Only after the military victory of 1956 did both these conditions exist. Israel's decisionmakers accepted the prevailing rules of the political game and defined any violation of these rules as a *casus belli*. Indeed, Israel's decisionmakers first specified a *casus belli* in 1957, when the withdrawal of forces from Sinai was under negotiation. In her speech to the General Assembly of the United Nations, Foreign Minister Meir warned that a blockade of the Straits of Tiran would be considered an act of war and would justify a military response by Israel. In the context of military success, decisionmakers shifted from concentration on defense to a mixed strategy of deterrence and defense. This shift in emphasis is evident in the summary of Israel's national security doctrine by one of its principal architects:

> During the decade 1956-66 [Israel's] doctrine rested upon the following crucial points: first, that the long-threatened Arab war should if possible be averted; second, that if it did nevertheless take place, it must at all costs be won by Israel; third, that only an army capable of winning would have the power to deter; fourth, that the hope to deter depended not on military strength alone but on the credibility of using it at the proper time and in a decisive way; fifth, that Israel had to be prepared to face all her enemies on her borders simultaneously; and finally, that she had to be ready to do the job herself without any military help from outside (Allon, 1970:61-62).[21]

As the decade progressed, policymakers increasingly emphasized Israel's conventional military superiority as the principal instrument of deterrence. At the same time, they added to the list of *casus belli* in an effort to make

is provided by the chief of staff. See Dayan, 1966 and 1976:151-207 See also Brecher, 1975:225-317 and Blechman, 1966.

21. Allon did not formally become a major policymaker until 1961 when he joined the cabinet. Nevertheless he was one of Israel's outstanding commanders during the War of Independence and continued to write extensively on Israel's security problems. One of the major statements of Israel's strategic doctrine was his *Massach Shel Hol (A Curtain of Sand)*, published in 1959. Allon reproduced the list of factors cited above from an address he delivered on 22 February 1967, in a publication in 1970. He then comments: "I have deliberately preserved the original sequence and emphasis of my arguments, in order to bring out the close correspondence between the military doctrine developed during this period and the actual course of the Six Day War, which was soon—less than four months later—to supply conclusive proof of the practical validity of the doctrine" (1970:62, n. 1). For the text of the address in Hebrew, see 1967a.

explicit the limits of acceptable change in the status quo. Most of these *casus belli* relate to "basic security," or those interests which Israel's decisionmakers consider vital to Israel's security. Peres (1965:9-15), Ben Gurion (1956a), and Allon (1956) distinguished issues of "current security," or the protection of civilians from limited attacks by irregular forces from neighboring Arab countries, from those issues which endangered Israel's existence.[22] Among decisionmakers and analysts of Israel's strategic doctrine, there is variation in definition and valuation of interests at stake; considerable difference in definition and specification of the actions to be deterred; and ambiguity in the likely response by Israel should deterrence fail.

Casus Belli: A Strategy of Deterrence

The most precise enumeration of Arab actions which would "oblige" Israel to retaliate was provided by Yigal Allon.[23] Israel would be entitled to strike "when it was clear that the enemy was preparing a surprise air attack on Israel's air bases" (1970:71). Allon then listed the indicators to be monitored.

> Air supremacy ensured the maximum chance of victory. The enemy air force would not be allowed to hit our air force on the ground. When the imminence of an air attack became apparent, either through intelligence sources or on the radar screens, it was to be forestalled, and the enemy air force was to be destroyed, if possible even before take-off (1970:71).

Here Israel's decisionmaker specified precisely the nature of the unacceptable action, the consequences of such an action, valid indicators, and the response. A second related *casus belli* was an intent to carry out a localized air attack against atomic installations and scientific institutions. Egypt might attempt such an action, Allon argued, accompanied by a declaration that its purpose was to destroy these installations and no more. It therefore must be made clear "that such a 'localized attack' would call forth an *immediate* general counter attack" (1970:71, emphasis added). Again, the unacceptable action was specified precisely, as was the scope and timing of Israel's response.

An Egyptian blockade of the Straits of Tiran was the most frequently

22. The distinction between "basic security policy" and "current security policy" is discussed in the *Israel Government Yearbook* (1969:153). Allon does list an unacceptably high level of guerrilla activity, an issue of "current security" as a *casus belli*: "When guerrilla warfare the planting of land mines and harassment shellings— reached such a point that passive defence and reprisals are unable to cope with it" (1970:71). Handel, in analyzing Israel's *casus belli*, includes an intolerable level of guerrilla activities that persists despite reprisals (1973:66), as does Friedlander (1972:150). Both decisionmakers and analysts suggest that a massive response by Israel is to be expected only after a series of guerrilla attacks— that is, in the event of deterrence failure.

23. Peres (1962), Meir (1957), and Ben Gurion (1971) also specified *casus belli*.

articulated *casus belli*. Foreign Minister Golda Meir, in her speech to the General Assembly of the United Nations on 1 March 1957, stated that:

> Israel is resolved on behalf of vessels of Israel registry to exercise the rights of free and innocent passage and is prepared to join with others to secure universal respect of this right. Israel will protect ships of its own flag exercising the right of free and innocent passage on the high seas and in international waters.
>
> Interference, by armed forces, with ships of Israel flag exercising free and innocent passage in the Gulf of Aqaba and through the Straits of Tiran, will be regarded by Israel as an attack entitling it to exercise its inherent right of self-defence under Article 51 of the United Nations Charter and to take all such measures as are necessary to ensure the free and innocent passage of its ships in the Gulf and in the Straits (1957).

Prime Minister Ben Gurion, in his address to the Knesset on 5 March 1957, repeated the declaration of the foreign minister. To underscore its importance, he then stressed the acquiescence of the principal maritime states in Israel's definition of such a blockade as a *casus belli*:[24]

> These [the principal maritime] states will exercise their right to free passage, and send their ships to Eilat. They have in addition taken note of our declaration that if our right to free passage is violated by force, Israel will be able to defend itself by force under Article 51 of the Charter. Several states also expressly recorded their recognition of our rights in this connection (1957).

While Ben Gurion unambiguously detailed the action to be deterred, the timing and scope of Israel's response to deterrence failure was less precise:

> [In 1959] I had explained that the closing of the Straits of Tiran to Israel shipping was to be regarded as "an act of open warfare," and that from the point of view of vital strategy Israel must not undertake to engage in defensive warfare "linked" to a given theatre of war (such as the area of the Straits of Tiran) or to any given date (such as the actual date of the blockade) chosen by the Egyptian ruler. For he would obviously attempt to lay down the time and place most convenient to himself and unfavourable to Israel. [A blockade] amounted to a declaration of war, which permitted Israel to lay down the place, the scale, and the zero hour for her action (Allon, 1970:72).

A blockade of the Straits of Tiran was defined repeatedly as an unacceptable change of the status quo. Israel's decisionmakers, however, deliberately refrained from specifying the scope, direction, or timing of the response should deterrence fail. This suggests that were a blockade to be imposed, choice would not be programmed; search and evaluation of possible responses would have to be undertaken. Although an Egyptian blockade was a principal object of deterrence, the procedures to manage deterrence failure were less developed.

24. For a further statement by Ben Gurion of a blockade as a *casus belli*, see his interview in *Newsweek*, 25 March 1957. For his version of the events of this period see Ben Gurion, 1971:502-507.

A military response by Israel also would be necessary "if Jordan should enter into a military pact with another Arab country and permit the concentration of alien military forces on her territory, and especially on the West Bank of the River Jordan" (Allon, 1970:71).[25] Allon explored the likely impact of such an action:

> The territories occupied by Jordan on the West Bank of the River Jordan faced the "soft underbelly" of the Israel defense lines. An offensive military force worthy of the name would try to cut Israel into two or three parts. If she [Jordan] joined a war-like coalition against Israel and permitted other Arab armies to enter her territory, *Israel would have no alternative* but to turn the West Bank from a potential wedge against herself into a grand trap for the enemy forces (1970:72, emphasis added).

Here, the decisionmaker, in stating the *casus belli*, has a priori processed choice and selected the preferred option; all other alternatives but military action are eliminated. Again, however, he does not specify the scope, level, or timing of the military response.[26]

An additional *casus belli*, which was articulated less frequently by decisionmakers but is included by analysts of Israel's political-strategic doctrine (Handel, 1973:63; Friedlander, 1972:150; and Horowitz, 1975a:246-248), was a situation in which Israel's qualitative superiority was undermined seriously by arms supplied to Arab countries. This *casus belli* is consistent with the argument that time was reinforcing qualitative superiority and thereby compensating for a narrow margin of security. After 1956, army planners argued that the introduction of modern nonnuclear technology increased rather than decreased the importance of the qualitative human factor in the conduct of war. This analysis was accepted by civilian decisionmakers and reinforced their commitment to the political status quo. As long as development was unimpaired by embargoes on the sale of sophisticated weapons or an unbalanced pattern of supply, Israel could deter effectively through its qualitative superiority in capabilities. Should external sources of arms supply intervene to distort this process, calculations of qualitative superiority would have to be

25. Ben Gurion warned against such concentrations in his statements to the Knesset on 15 October 1956. See Ben Gurion, 1956b. The importance of this *casus belli* is attested to by Sir Basil Liddell-Hart: "When visiting Israel in 1960, I had lengthy discussions with Generals Laskov, then Chief of Staff, and Rabin, then Vice Chief, about their course of action in any future war. From these discussions it was evident that the contingency with which they were most concerned was that Hussein might be overthrown by a Nasserite plot—and in that case they would advance into Jordan immediately before Egyptian and other Arab forces could move in" (1968:19).

26. Handel (1973) expands the scope of this *casus belli* to include an attempt by an Arab state more powerful than Jordan or Lebanon to take control of either and thereby to change the balance of power on Israel's eastern or northern border. Israel's decisionmakers warned against a Syrian invasion of Jordan in 1970, and against Syrian interference in the internal strife in Lebanon in 1973. During the civil war in Lebanon in 1975-1976, Israel's officials frequently warned that they would not "tolerate" the presence of Syrian forces across a "red line," generally considered to be the Litani River in southern Lebanon.

revised. Such calculations are context-dependent, and a precise threshold of imbalance cannot be specified in advance.[27] Although this *casus belli* does not provide a program for the processing of choice, an unbalanced pattern of supply was likely to indicate a decisional problem.

The final *casus belli* was defined most ambiguously.[28] Not only was the probable response by Israel unspecified, but the nature of the unacceptable action was left ambiguous. Allon declared that a *casus belli* would exist "when such offensive forces were being constituted as to constitute a danger to Israel" (1970:70). His elaboration was not precise:

> The concentration of offensive forces had one aim only: aggression. The mustering of forces for an offensive was the first phase of the offensive itself and was to be treated as such (1970:71).

Analysts are somewhat more specific: Brecher refers to "the concentration of Egyptian military power in the Sinai" (1972:67), while Handel lists "a threatening concentration of Arab military forces on one or more of its [Israel's] borders" (1973:63). Considerable ambiguity exists in the definition of the size, location, and intent of the military force that would be concentrated.

This *casus belli* was applied most frequently to the deployment of Egyptian troops in Sinai,[29] and it is here that ambiguity was most pronounced.[30] Regular Egyptian troops were deployed throughout Sinai from 1957 to 1967. Estimates of the scope of the Egyptian deployment vary, but all agree that it was considerable.[31] Egypt had built an extensive infrastructure in Sinai which included airfields, supply depots, and a forward system of defensive positions in the strategic areas close to the Israel-Egypt border.[32] This infrastructure—airfields, fortifications, roads,

27 Horowitz (1975a:248) distinguishes between "preventive" and "preemptive" war as a response to *casus belli*. A "preventive" war would only be chosen when Israel's decisionmakers perceived a serious imbalance in capabilities; after 1956, this was unlikely. These distinctions are discussed in greater detail when Israel's defensive strategy is examined.

28. An additional *casus belli*, which is not relevant to the strategic choices under analysis here, was the unilateral attempt by a neighboring Arab state to divert the waters of the River Jordan (Handel, 1973:63 and Brecher, 1972:67).

29. Deployment of troops on the northern and eastern frontier was covered partially by the *casus belli* which prohibited the stationing of other Arab forces on Jordanian or Lebanese soil. A second *casus belli* which established an upper limit of tolerance of guerrilla activities was directed to Syria, as well as to Jordan and Lebanon.

30. For an excellent analysis of the ambiguities in Israel's deterrent posture toward Egyptian deployment of troops in the Sinai, see Evron, 1975.

31. Estimates in Israel range between one and two divisions, plus approximately 250 tanks. Two squadrons of fighter-bombers were kept permanently in Sinai, although none were MIG-21s (Evron, 1975:6, n. 6). A senior officer in Military Intelligence has disputed the accuracy of these estimates and suggests that Egypt stationed only three infantry brigades and no armor in Sinai. Such a limited deployment would provide no offensive capability.

32. Although the actual deployment of aircraft was not extensive, there were five airfields which could be activated quickly. Sixteen radar stations were in place throughout Sinai, and the network of roads and the water system—important for troops fighting in the desert—were developed considerably in the decade 1957-1967.

and water systems—made possible large-scale and rapid deployment of Egyptian troops in the forward strategic areas close to Israel's border. Given this deployment of troops and development of infrastructure, Israel's decisionmakers could have been referring only to massive reinforcement of this troop deployment; but they did not specify the scope of "massive"—or the movement of troops to forward areas. More so than in other cases, the scope of unacceptable action to be deterred was underspecified.

On 18 February 1960, after a retaliatory raid by Israel against Tawafik in Syria, Egypt moved three infantry brigades and one armored division, including 500 tanks, across the Canal into the Sinai where they took up positions in Gaza, el-Arish, and Abu Ageila. Israel responded with a partial mobilization of some of its reserve units and the transfer of large tank formations to the south (Schiff and Haber, 1976:482-483).[33] After a few days, Egypt announced that its troop concentrations had deterred Israel from attacking Syria, and on 1 March Egyptian troops began to return to their bases west of the Canal. The restrained response by Israel to troop deployments in the Sinai in 1960 suggests that the movement of troops into Sinai cannot of itself be considered a *casus belli*; nor is movement close to the border of Israel sufficient. A change in capabilities is not sufficient to indicate an attack. Although troop movements are reliable indicators which can be monitored easily, they may not be valid if used independently as indicators of a probable attack. Rather, decisionmakers must evaluate the intentions of their opponent directly, through the examination of the statements of Arab leaders which accompany the change in the deployment of forces. In the specification of this *casus belli*, there was no unambiguous identification of the action to be deterred nor of the response to an unacceptable change in the status quo. Nor was the relationship between capabilities and intent clearly established.[34] In the few cases prior to the Six Day War, Israel responded with partial mobilization of its reserve forces. The criteria to choose an appropriate response to a "major" militarization of the Sinai remained unclear.

All six *casus belli* would be relevant in the three weeks preceding the choice by Israel's decisionmakers to preempt on 4 June 1967. Their analysis shows, however, considerable variation in the specification both of the action which constitutes an unacceptable change in the status quo and in the likely response should deterrence fail (Table 4.1). The validity of the indicators used to monitor such unacceptable changes also varies. The first two causes of war—preparation or intent to implement a surprise air attack

33. Israel's response is referred to as "Operation Rotem."

34. Handel (1973:47-48) suggests that even massive troop concentrations do not by themselves constitute a *casus belli*. To evoke a military response, they must be accompanied by explicit statements of intent by Arab decisionmakers.

and/or a limited strike against Israel's scientific installations—clearly specify the limits of unacceptable action. They unambiguously detail Israel's response and establish valid indicators to monitor changes. Radar screens monitor changes in adversary capabilities while intent is estimated by political intelligence. Decisionmakers can follow established procedures of evaluation and use programs to process choice.

TABLE 4.1

Casus Belli AS PROGRAMMED CHOICE

Casus Belli	*Indicator*	*Israel's Response*
Air Attack	Changes in air capability monitored on radar or tactical intelligence on intent.	Immediate, general, military attack
Limited strike against scientific installations	Changes in air capability monitored on radar or tactical intelligence on intent	Immediate, general, military attack
Blockade of Israel's shipping through the Straits of Tiran	Verbal declaration by Arab leaders and/or monitoring of aerial and naval deployments	Scope, level, and timing of military response unspecified
Entry of other Arab armies into the West Bank of the Jordan	Monitoring of troop deployment	Scope, level, and timing of military response unspecified
Unfavorable change in the balance of military forces	Unspecified pattern of arms shipments	Scope, level, and timing of military response unspecified
Troop concentrations near Israel's borders	Unspecified change in the pattern of deployment accompanied by declaration of hostile intent	Scope, level, and timing of military response unspecified

The next two *casus belli*—a blockade of the Straits of Tiran and the entry of other Arab forces into Jordan and Lebanon—also identify the undesirable action and the appropriate indicators. However, the response to deterrence failure is specified less clearly; in both cases, considerations of scope, level, and timing intervene between stimulus and response. Additional processes of search for and evaluation of alternatives are necessary before a choice can be made.[35]

The final two causes of war—an unfavorable change in the balance of forces[36] and massive troop deployments in preparation for an offensive

35. Since programs are the product of prior calculation, search is restricted to locating the appropriate program, and evaluation is limited to consideration of the prespecified indicators. If additional calculation intrudes between stimulus and response, the process is no longer purely cybernetic.

36. Even though external arms supplies which would change fundamentally the balance of power were not a factor in 1967 as they were in 1955-1956, they were relevant insofar as Israel's chief source of arms supply introduced an embargo in the days immediately preceding the decision to strike.

attack -- fail to specify precisely the quality or quantity of an unacceptable change in the status quo, valid indicators to monitor such a change, or the probable response by Israel. No clear boundaries are established of either the extent of imbalance of arms supplies or the scope of troop deployment. Further, when troop deployment did occur, the scope of the deployment was not considered a valid indicator of attack, and statements of the adversary were factored into the calculation. Finally, neither the scope, the level, nor the timing of Israel's response can be anticipated. In both cases, the calculation of a wide range of factors intervenes between stimulus and response.

The ambiguity may not have been inadvertent but deliberate. Policymakers considered their conflict with Arab states to be of considerable interest to powers outside the Middle East. If Israel specified too explicitly the boundaries of unacceptable violations, interested great powers might intervene to challenge these limits. Such a challenge to Israel's definition of unacceptable action would reduce the credibility of deterrence among Arab decisionmakers. This line of argument dictated imprecision rather than precision.[37]

The specifics of the unacceptable action would remain imprecise not only for those outside the region, however, but also for the Arab governments likely to initiate the challenge.[38] Imprecision would then reduce the effectiveness of deterrent warnings that would be issued. If Arab decisionmakers were not aware of the boundaries of the unacceptable, they might initiate action with less than complete understanding of the consequences. Deterrence would fail not through design but through miscalculation. Only if Israel anticipated that its definition of unacceptable action was itself unacceptable to interested outsiders was the imprecision in deterrent strategy understandable. This imprecision suggests that Israel's leaders gave greater weight to support from the major powers than to Israel's independent capacity to deter. They chose to permit a high level of uncertainty among Arab decisionmakers in order to preclude an unfavorable response from the major powers. Such a strategy made little sense. Should an Arab government initiate a challenge, the absence of great power support for Israel's definition of acceptable behavior would immediately become apparent. Present ambiguity was designed to avoid a future contingency, but that ambiguity made the undesirable contingency more rather than less likely. It is difficult to prevent adversaries from doing something they do not know is unacceptable.

37. This interpretation of the imprecision in deterrent strategy is offered by Horowitz (1975a).

38. Members of the opposition criticized both the ambiguous specification of the actions which are considered a violation of the status quo as well as the failure to establish an unequivocal commitment to respond to such violations. In discussing the deployment of non-Jordanian forces on the West Bank, they argued that the vague formulation reduced the effectiveness of the deterrent warnings that were issued. See, for example, the debate in *Divrei Ha-Knesset*, 6 and 7 May 1963.

While the logic of an incomplete specification of an action to be deterred is difficult to follow, the logic of ambiguity in the deterrent response is more obvious. Imprecision may be designed deliberately to preserve the options of decisionmakers. Indeed, if the contingent commitment to retaliate appears excessive, deterrence becomes less credible to the challenger. Should Israel threaten a full-scale military attack, for example, to deter troop movements on its borders, Arab decisionmakers might consider it highly unlikely that Israel would indeed undertake action of such scope if Arab forces were so deployed. The credibility of deterrence would be reduced rather than increased by the precise specification of response. Rather, deterrence may become more effective as options become more numerous and flexible. As a commitment becomes more explicit, the flexibility to calibrate responses to particular conditions decreases. By refraining from a precise description of their response, decisionmakers do not foreclose their own choice among a variety of alternatives.[39] The credibility of deterrence then depends not on the specificity of the commitment to respond, but on the obvious strategic rationale which underlies the warning by the deterring state. In the formulation of these last two *casus belli*, then, both stimulus and response are underspecified. While the latter implies only that decisionmakers will not be able to use programs to make their choices, the former compromises the logic of the argument and the psychology of deterrence. A challenger can consider the consequences of action only when the action has been defined as a challenge.

Although strategic doctrine is of only limited precision and provides few routines for choice, it does provide a framework for subsequent information-processing by decisionmakers. The list of unacceptable violations of the status quo, specified by the concept of deterrence, can serve as a series of environmental indicators for decisionmakers to monitor. In this sense, strategic assumptions guide the use and interpretation of indicators. Variation in these indicators may signal to decisionmakers the necessity to revise their estimates of the probability of attack.

An examination of the indicators established by strategic concepts for each of the *casus belli* (Table 4.1) suggests different emphases on capability and intent. Those indicators which monitor changes in capabilities—such as preparation for an air offensive—are considered both reliable and valid measures of the probability of an attack. Those indicators which include

39. While ambiguity may preserve the options of the defender and thereby increase the credibility of deterrence, it also complicates calculation by the challenger of the defender's intent. This increase in uncertainty increases the cost of information management and probability estimation for the adversary. For a discussion of the impact of flexibility on deterrent effectiveness, see Snyder, 1961; George and Smoke, 1974:556-557; Horowitz, 1975a; and Lockhart, 1978.

measures of intent as well as capabilities—the concentration of troops accompanied by threatening statements—are more difficult to use to estimate and review the probability of attack; both their reliability and validity are lower. Even then, however, variation in indicators which have been prespecified is more difficult to ignore or discount. The availability of a series of indicators established through the specification of *casus belli* reduces the likelihood that decisionmakers will use cognitive shortcuts to process information.

An accessible set of indicators can also lengthen the amount of time available for decision by facilitating early identification of a problem for decision. A director of long range planning in Israel's Ministry of Defense defined the essence of the security problem for a small state in a threatening environment as a lack of time, or a risk of insufficient warning for mobilization and deployment in the face of a massive conventional assault (Amiel, 1975:16). Variation in the indicators which are considered valid can serve as early warning of the likelihood of deterrence failure. If decisionmakers work under moderate rather than intense time pressure, they are more likely to use more complicated and demanding procedures. To the extent that strategic doctrine includes consideration of such indicators, the likelihood of some variant of analytic processing increases.

Just as concepts of deterrence may provide guidelines for the processing of information and the revision of estimates, so they may simplify complexity through the specification of the value trade-offs which must be considered if the status quo is violated. Strategic concepts can provide structure for the evaluative process and encourage analytic procedures. Israel's concept of deterrence varied in its specification of the relevant dimensions of value. In the first two causes of war, trade-offs were specified clearly as the net loss to Israel's military security from a surprise air strike was calculated. Despite the possibility of miscalculation and the probability of international disapproval, Israel "could not afford" to absorb an Arab air attack. In the subsequent two *casus belli*, the value trade-offs were calculated only partially. The loss to military security as a result of economic blockade or military invasion from the east was considered, but the scope, level, and timing of response were to be influenced by additional factors which were not made explicit. Yet decisionmakers would have to consider these factors in making their choice and these factors may be related to other dimensions of value which are important to decisionmakers. The doctrine of deterrence is only of partial help to decisionmakers in structuring their process of evaluation should deterrence failure seem imminent.

For the final two causes of war—troop concentration and an unbalanced pattern of arms supply—value trade-offs were marginally calculated. The point at which either challenge became so costly that a choice to respond

with military force would compensate for the loss on other dimensions was not specified. Again, the additional dimensions of value which must be considered before choosing to respond were not detailed, nor were procedures for their identification. In the six cases of action to be deterred, strategic concepts are of decreasing utility in structuring a process of choice should deterrence failure appear likely. Some of the relevant factors or dimensions of value which are not considered by the concept of deterrence are examined when defense is analyzed. Drawing on the concept of deterrence, however, decisionmakers will get considerable assistance in information-processing but substantially less help in structuring the process of evaluation.

This examination of the doctrine of deterrence developed between 1957 and 1967 suggests that the quality of its logic may have considerable impact on the making of national security choices. Strategic concepts are not complete. Only under conditions of anticipated short decision time—minutes—does a *casus belli* provide a program for choice. At all other times, varying degrees of calculation are required between the specific stimulus and the appropriate response. Decisionmakers who refer to prevailing strategic assumptions are not likely to use any of the cybernetic paths to choice.

Although strategic concepts are not fully complete, they do include many of the central components of deterrence. By articulating a series of *casus belli*, leaders formulated commitments to a given set of conditions, specified unacceptable action, and signaled to their opponents their intent to deter. Once unacceptable action is demarcated, these *casus belli* can serve as valid indicators to estimate the intent of an adversary. Strategic concepts paid very little attention directly to reconstructing the calculus of Israel's principal opponents. Indirectly, however, uncertainty is reduced: because Egypt or Jordan know what is unacceptable, the occurrence of any of these actions would indicate intent to challenge. Changes in one or another of these indicators should signal the need to reconsider and revise estimates of the calculus of an adversary. If Israel's leaders draw on prevailing strategic assumptions, they are unlikely to commit egregious errors in information-processing. Evidence relevant to actions established as *casus belli* would be difficult to discount or ignore.

There is one minor flaw in this logic. One of the major causes of war, a concentration of troops on Israel's borders, was ambiguously defined: the scope and limits of unacceptable action remained unclear. Under such circumstances, miscalculation both by a challenger and a defender becomes more likely. Each finds it difficult to estimate the significance of actions as indicators of the intention of the other. The challenger is uncertain of what is unacceptable, and the defender is uncertain of the intent of a challenger should undesirable action occur. It is difficult to

reconcile this ambiguity with the premise of an interdependent and rational decision process which is part and parcel of any concept of deterrence. Opportunities for miscalculation multiply when expectations are regressed: the challenger knows the defender is uncertain of the challenger's intent, and the defender knows that the challenger knows that the defender is uncertain. The incomplete specification of what is to be deterred compounds the difficulty of information-processing in the management of deterrence.

More serious is the incomplete valuation of intrinsic interests which underlies a strategy of deterrence. Careful comparison of the value of the interests at stake to the defender with the cost of their protection is a logical prerequisite of any complete and coherent doctrine of deterrence. Israel's leaders are explicit that failure to respond to an impending aerial attack or to the militarization of the West Bank would be a grave error. They have anticipated the consequences should deterrence fail and consider their threatened response to be rational under the circumstances. The enumeration of cost and consequences which flows from the valuation of interests makes a variant of analytic evaluation easier should either of these contingencies occur. The consequences of alternatives and some of the important cost-benefit factors have been made salient.

Careful valuation of intrinsic interest is much less apparent when troop concentrations or a naval blockade are discussed. Although a blockade is clearly undesirable, there is little comparison of its cost with the consequences of lifting a blockade should deterrence fail. Decisionmakers drawing on prevailing strategic arguments would get only limited assistance in evaluation: concepts make passing reference to the economic and political consequences of a blockade and to unspecified factors which must be evaluated should a blockade occur. These factors may intrude to make fulfillment of a commitment very costly. The scope of deterrence was not delimited carefully to reflect valuation of the interest at stake in comparison to the cost of protection. Since the cost of fulfilling a commitment was not assessed systematically, leaders may find themselves trapped in an irrational commitment to retaliate. If this indeed were the case, then incomplete concepts have produced questionable logic.

Even if the net consequences of retaliation were negative, decisionmakers nevertheless may consider it rational to attempt to deter. In a variant of the "rationality of irrationality," by establishing a blockade or troop concentrations as a *casus belli*, they have committed themselves to choosing a course of action which they would not choose should the provocation occur and they were free to consider alternatives. It might nevertheless be rational to make the commitment if leaders considered that the undesirable action could not be forestalled in any other way and if they anticipated that deterrence would succeed. The specification of these *casus*

belli would be rational as a calculated risk. There is little evidence, however, that decisionmakers did calculate the risks carefully; they do not appear to have engaged in preliminary evaluation either of the costs of deterrence failure or of failing to fulfill their commitment. Only if they had done so could they have assessed whether it was rational to make the commitment to deter.

Once an undesirable action has been specified and a commitment to a specific state of affairs has been made, leaders become committed to the maintenance of a credible deterrent reputation. Failure to protect one interest jeopardizes the credibility of commitments to safeguard other interests. Because of the interdependence among interests, deterrence is transformed from a strategy to a value: reputation for resolve becomes an intrinsic interest when leaders are considering appropriate responses to the likely failure of deterrence. When reputation for resolve is of some importance in an ongoing relationship, careful valuation of interests is especially critical before an attempt to deter is made. If the scope of deterrence is overextended, failure to fulfill irrational commitments may severely increase the cost of protecting interests where commitments are cost-effective. It is these kinds of considerations which lead policymakers to weigh heavily the cost of the failure to deter when they are considering alternatives in the face of a challenge. When strategic arguments do not include a careful valuation of intrinsic interest and the cost of maintaining a credible deterrent posture, when they are incomplete and incoherent on critical components, the logic of the argument is flawed. On two of the central issues at stake, Israel's leaders were working with flawed arguments.

Deterrence Failure and Defense

The development of concepts of deterrence did not preclude continued emphasis on defense. Indeed, although Israel's decisionmakers considered that the quick decisive military victory of 1956 provided a basis for a credible deterrent posture, they did not argue that it had diminished the intensity of Arab hostility or changed the thrust of Arab intent. On the contrary, the intensity of Arab hostility increased as the conflict continued (Allon, 1970:67). Given constant and unremitting Arab hostility, Israel's leaders emphasized that, in determining their strategy of defense, they must consider the narrow margin of security which derived from the absence of geographic depth and from a small population. This narrow margin was reduced further by the absence of a defensive alliance (Dayan, 1955:250-251, 258). The first basic principle of Israel's defensive strategy, dictated by its strategic environment, was that of self-reliance.[40]

40. The concept of "self-reliance" is deeply rooted in the development of Zionist ideology. It found its earlier expression in the term "self-emancipation," used by Dr. Leon Pinsker in a pamphlet in 1882. The concept characterized an important strand of Zionist thinking in the nation-building period, and it is not surprising that it would influence both the strategic

Self-reliance refers both to the appropriate weighting of external factors in making strategic choices, and to the kinds of capabilities necessary to ensure Israel's security. Decisionmakers emphasized Israel's military isolation and the corresponding necessity to rely entirely on its own capabilities in case of emergency (Peres, 1970). Allon, in describing the basis of Israel's strategic doctrine, argued that "she [Israel] had to be ready to do the job herself [should an attack be considered imminent] without any military help from outside" (1970:62). Because Israel depends only on its own resources, Israel's decisionmakers must make choices in their autonomous self-interest; they must weigh the interests of others only as they impinge directly on those of the state. This assumption of isolation and the related necessity for self-reliance was widely shared among the decision-making elite.[41]

Related to the emphasis on self-reliance was a consistent pursuit of the broadest possible margin of security (Horowitz, 1975a:253). Because of the constraints of geo-strategic factors and the expectation of only limited help from other states, strategists emphasized the importance of choosing the risk-averse option. Strategic thinkers analyzed problems with worst-case assumptions and recommended options which reduced the risk to the military security of the state. Risk-aversity and self-reliance established the framework for the analysis of the appropriate response to an impending military attack. Within this framework, analysts first examined those conditions which constrain the choice to respond with force and then developed assumptions about the appropriate response to likely deterrence failure. These two sets of assumptions are not necessarily consistent.

Israel's decisionmakers detailed the conditions which were necessary before Israel could respond to an imminent failure of deterrence with force. Ben Gurion, the former prime minister and minister of defense, argued that Israel must never fight the military forces of a major power. Israel's forces engaged those of a major power only once;[42] on 7 January 1949, air force pilots shot down four British Spitfires with no formal authorization from central policymakers. General Weizman, a senior air force officer at the time, recalled the apprehension about possible consequences: "We definitely had had the feeling that we were running a big risk, and I would by no means say that the decision to engage the British planes was the

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calculus and the tactical doctrine of the Israel Defense Forces. For a discussion of the Zionist roots of the concept, see Horowitz, 1975b:24, and for an analysis of the impact of the concept on the fighting practices of the Haganah, see Dinur, 1954.

41. This assumption is described as "Ben Gurionism"; it is shared by most members of the decision-making elite (Brecher, 1972:281). There are competing assumptions those of "Buberism" and "Weizmannism" which are held by a minority of decisionmakers. For definitions of these terms and an analysis of the nuances within the decision-making elite, see Brecher, 1972: 280-290.

42. A second encounter with the forces of a major power occurred during the War of Attrition when, on 30 July 1970, Israel's pilots shot down four MIG-21Js flown by Soviet pilots.

outcome of cold sober reasoning" (1976:83). The prime minister, in subsequent years, repeated his determination to avoid such encounters in the future. "I will never undertake to send the Israel Defence Forces to fight a European, or American, Russian, British, or French army," Ben Gurion told his colleagues in the Knesset in the months preceding the Sinai Campaign (1956a).

Extending this principle further, Ben Gurion argued that Israel should not attack unless it secured in advance the political support of a major power capable of supplying military equipment when the war was over.[43] More important, such political support would also neutralize a potential threat from another great power intervening on behalf of Israel's opponents. During the War of Independence, Israel's decisionmakers had to consider the possibility of British intervention on behalf of their adversaries. After 1948, Ben Gurion determined that Israel could not risk such intervention through its military action.[44] An ally to deter such intervention was a necessary condition of a first strike. Chief of Staff Rabin incorporated these assumptions when he summarized Israel's political and military thinking prior to the Six Day War: "Israel must avoid getting involved in a war without the clearest support of a European or other power." (1971). Finally, planners emphasized the danger of a multi-front war with little strategic space. They urged decisionmakers to avoid a war alone against the combined strength of Arab armies while preparing for the contingency that Israel would face a coordinated military offensive by all Arab states simultaneously (Rabin, 1971).

These concepts intervene between an unacceptable violation of the status quo by an Arab state and the selection of an appropriate response. It is entirely possible that, should a violation occur, Israel's leaders would be unable to secure the support of interested great powers or to neutralize them. Prevailing assumptions about the necessary conditions for defense complicate the choice prescribed by deterrence. The two concepts are not

43. There is some disagreement on the relative importance of external factors in the calculus of Israel's decisionmakers. Ben Gurion urged early in the 1950s that no attack be considered unless Israel were assured of great power support. This suggests a high valuation of support from external powers and a recognition that an Arab-Israel conflict could not be isolated from the larger strategic context. Horowitz suggests, however, that only after 1967, when the threat of Soviet intervention increased, did Israel's decisionmakers abandon the assumption that Israel's security problem was confined to the Arab-Israel contest. Until that time, Israel's planning assumed, if not explicitly, a certain degree of autonomy for Arab-Israel relations: "The potential, and at times, actual presence of the Great Powers in the region was perceived as part of the system of political forces which set limits to the possibility of resorting to force during periods of decreased tension, but not as a point of departure for determining moves in Israeli strategy" (1975a:258).

44. In an intriguing interpretation, one analyst of Israel's foreign policy suggests that the principal reasons to ally with France and Britain in the period immediately before the Sinai Campaign were the necessity to secure a reliable supply of arms and, equally important, a guarantee that neither power would intervene on behalf of Egypt. Israel argued, he suggests, that to have England as an ally against Egypt was the surest method not to have England as an enemy (Derrienic, 1974:92-93).

inherently inconsistent, but the argument is not fully worked out; there is no systematic investigation of the consequences of retaliating without great power support as against permitting deterrence to fail. While the argument is enriched, it is not fully coherent.

The incoherence in the argument arises in part from its greater completeness, or the inclusion of additional factors necessary for defense. This listing of additional factors does help, however, to define some of the parameters of a complex problem for decision. Leaders who draw on prevailing strategic concepts which expand the factors to be evaluated are less likely to ignore the obvious and salient value trade-offs. Just as a richer concept of deterrence can help in the processing of information, so a more complete concept of defense can be useful in listing at least some of the complexities leaders may have to consider before choosing a response to the likely failure of deterrence.

In response to an unacceptable violation of the status quo, Israel's strategic thinkers developed a two-phase concept of defense: in the first phase, a small standing army and a regular air force provide the framework for the rapid mobilization of the reserves; in the second phase, the mobilized Israel Defense Forces (I.D.F.) seize the strategic initiative.

After the War of Independence, almost all those serving in the army were demobilized rapidly to return to pressing civilian tasks. Chief of Staff Yigael Yadin and his colleagues confronted the dilemma that Israel, with a small population, could not maintain a standing army of adequate size. Egypt was able to deploy a large army of long-term regulars without draining its civilian economy. The majority of Israel's manpower had to be free to engage in civilian activity if the country were to surmount its formidable social and economic problems of absorption and reconstruction. However, trained combat-ready forces of sufficient size had to be ready at all times to defend against an attack across any of the borders. To solve this problem, Yadin organized a universal system of reservists—a "citizens" army All able-bodied men and women regularly trained each year with permanent units,[45] and a system of mobilization was established to ensure their rapid call-up in the event of an emergency. The mobilization system was tested extensively through military exercises in 1950-51 and judged to be successful.[46] Since that time, Israel's military system has been based on a small regular army with its principal strength in reserve units.

The success of a system of defense based on militia forces depends, to an unusual degree, both on accurate intelligence information and on support and cover from the standing forces. The concept of defense included the air

45. For an extensive description of the origins of the reserve system, the procedures of reserve training, and its impact on the economic and military sectors, see Luttwak and Horowitz, 1975:71-103.

46. For the considerations that led to the adoption of the reserve system, see Allon, 1959:35-51.

force, the navy, and the intelligence corps as the principal regular forces of the Israel Defense Forces. Especially as air power developed in the decade after 1948, the air force was responsible for covering the mobilization process and for supporting, through its fire-power, the small standing army which must contain an enemy offensive until the militia forces were fully deployed (Tal, 1976). Military planners relied even more heavily on ample warning from the intelligence corps of an impending attack (Laskov, 1968a:41-44). Advance warning of enemy intent to attack is important for all states; in Israel's case its importance is much greater because of the reserve structure and the necessity of early warning to permit mobilization.

Given a high-risk strategy of a reserve army in a situation of "dormant war," the number of large-scale mobilizations should be frequent. However, Israel's proportionately small manpower base imposed constraints on the frequent use of large-scale mobilization. A full-scale mobilization, if it is prolonged, halts economic activity and paralyzes the civilian sector. Although neither decisionmakers nor planners discussed the issue frequently, they recognized that reservists could not be kept in uniform for an extended period (Weizman, 1976:166). Given the basic asymmetry in the structure of the Arab and Israel armies, large-scale mobilization by Israel, in the event of an Arab violation of the status quo, implied a rapid return to the *status quo ante* or an offensive strike by Israel. If intelligence estimates a high likelihood of a general attack or a violation of the status quo which is defined as unacceptable, mobilization is a first-phase response; a second phase follows quickly.

Partial mobilization provides an alternative to the high cost and disruptive effect of large-scale mobilization.[47] If the validity of indicators is not high, "signals" ambiguous, and Arab intent difficult to estimate, Israel could mobilize some reserve units both to defend and to deter. If an Arab violation of the status quo is one which has been specified less precisely and if this violation is not an immediate prelude to a general attack, partial

47. Official definitions of partial, full, and total mobilization are classified, as are the conditions which guide the selection of these levels of preparedness. Decisionmakers and secondary sources have not made the distinctions precise; therefore, the following definitions, the product of informal interviews, must be treated with caution. The Israel Defense Forces use three levels of alert—A, B and C. At level B, frontline forces are alerted as is the air force, and the system of mobilization is checked. Level C, the highest level, can be followed only by an order to take position. When a C-level alert is declared, all regular army personnel are alerted as are reserve mobilization personnel. Some additional support staff are mobilized, and all leave is canceled for those reserve personnel currently serving their tour of duty. Commanders activate forward headquarters and the General Staff mans the Supreme Command Post. The chief of staff can institute these alert procedures on his own authority. Schiff notes that a C-level alert is not, however, a specific order to deploy or take up positions (1974:50). A partial mobilization is the call-up of only certain units—generally paratrooper and/or armor; the size and scope of such mobilizations vary greatly under different circumstances. A full mobilization involves all units in the reserve system, and a total mobilization includes the non-military or civilian auxiliary units as well. Prior to October 1973, the chief of staff needed cabinet approval for any level of mobilization. Since October 1973 procedures have been revised somewhat to permit more flexibility for limited mobilization by area commanders.

mobilization may be a more efficient option. It is not linked to offensive action within a limited time period and permits a period for further evaluation.

Partial mobilization could deter as well as defend. Although less credible than full mobilization, a partial move nevertheless signals commitment to an adversary and thereby reinforces deterrence. It simultaneously improves defensive capability should deterrence fail. As a strategy of defense, it can be considered risk-averse.[48] The more preferred outcome would be deterrence without mobilization while the less preferred outcome would be defense without mobilization. As the first in a possible sequence of choices, partial mobilization minimizes the risk of the latter and sacrifices the former. As noted, Israel's decisionmakers chose this alternative in February 1960 when Egypt deployed a substantial number of troops in the Sinai.[49]

Israel's strategic concepts do not distinguish formally between partial and full mobilization nor do they establish their relationship to deterrence and defense. This is a rather grave omission; in their treatment of mobilization, strategic arguments are flawed. Because partial mobilization is not considered separately, it is not compared systematically to large-scale mobilization. While their respective contributions to defense are obvious, their relative advantages and disadvantages as a deterrent strategy are not examined. Closely related is the failure to consider the appropriateness of partial and large-scale mobilization to different levels or kinds of warning that deterrence may fail. Strategic concepts do not distinguish those conditions which justify large-scale call-ups from those where partial mobilization would constitute an adequate response to warning. Such distinctions are especially important when an economy has difficulty sustaining a protracted mobilization of forces.

Finally, strategic arguments draw no relationship between the occurrence of different *casus belli* and the scope of mobilization in response. Logically, since each is defined as a cause of war, the occurrence of any would require large-scale mobilization. In practice, some are more ambiguously defined than others. Should the West Bank be militarized, a large-scale call-up might be indicated while in the case of Egyptian troop deployments in the Sinai, a less clearly specified *casus belli*, partial

48. Generally, concepts of risk-aversion and risk-acceptance are applied to individual preference structures. However, they have been used to examine the risk propensities of decisionmakers as a unit or a group (Triska, 1966; George and Smoke, 1974). Here, the focus is on the risk-calculation of doctrine which analyzes strategic situations in order to recommend alternatives.

49. No published evidence exists on the number of partial, full, and total mobilizations in Israel over time. While full and total mobilizations are reported, partial mobilizations are not always reported by the media. It is difficult to estimate the proportion of partial to full mobilizations; nor is it possible to list all the circumstances under which Israel's decisionmakers chose partial mobilization. Whaley states that partial mobilization was a "rather ordinary event" in the year or two preceding the Sinai Campaign (1969:A538).

mobilization might be an appropriate choice. Strategic concepts engage in no such analysis. Although they recommend mobilization as the initial response to an imminent failure of deterrence, they are incomplete in their examination of the appropriate level of response and, consequently, silent on the impact of differences in the scope of mobilization on deterrence and defense.

Strategic doctrine also analyzes the second phase of defense, the response after mobilization. Even with fully mobilized reserves, military decisionmakers still confront the acute problems created by the lack of strategic depth, the possibility of a multi-front war, the active interest of the great powers, and a strong desire to minimize casualties in a citizens' army drawn from a small population base. An emphasis on the lowest possible level of casualties places a premium on as short a conflict as possible. Long battles of attrition inevitably would increase military casualties and threaten the limited manpower base that supports the armed forces. To be effective, therefore, defense must be quick.

This emphasis on a short war is consistent with the analysis by both civilian and military decisionmakers of the constraints imposed by external powers. A military conflict between Israel and any Arab state could not be isolated from the larger context of great power relationships. Once war begins, they argued, one or another of the great powers would intervene to impose a ceasefire on the belligerents after only a few days of fighting (Tal, 1976). Although the major powers might avoid direct intervention to reduce their risk of confrontation, they would cooperate to terminate hostilities as quickly as possible, especially if Israel's forces appeared to be victorious. These constraints imposed by external powers increase the importance of a short war which can be waged with existing stocks of equipment. Such a war is more difficult to control for those powers who are the principal sources of arms in the Middle East.

A short war is also required by a militia-based army which makes extended mobilization of a large number of forces very difficult. General Weizman, a commander of the air force and chief of operations in the I.D.F., stressed the particular importance of time in Israel's strategic environment:

> In Israel's wars, the factor of time [is] of critical importance. There are two interconnected aspects to this time factor. A small people has only limited breathing space. Our standing army is small, and war requires mass mobilization of reserves, which paralyzes the whole economy. A long war means a lot of casualties and heavy bloodshed; it also means that a lot of materiél is used up, emptying our stocks (1976:166).

The logic of low casualties, limited manpower, and dependence on external supplies of military equipment dictates a short war.

In examining strategies of defense, military analysts considered not only the constraints imposed by these three factors, but also the military implications of the country's long frontiers, the absence of strategic depth, and the likelihood of a multi-front war. Israel's chief of staff from 1949 to 1952, Yigael Yadin (1967), attested to the strong influence of Sir Basil Liddell-Hart's thinking when the General Staff examined the impact of all these factors on defense.[50] Writing after World War I and the carnage in the trenches, Liddell-Hart urged a "strategy of indirect approach" to reduce the level of military casualties. An attacking force could achieve its objectives by avoiding frontal assault and concentrating on flanking maneuvers which circumvent reinforced positions, confuse the adversary, and increase the "fog of battle." Defense should not only be quick, therefore, but also indirect. Through tactical surprise and indirection, advancing forces reduce direct combat with fully positioned units and decrease their level of casualties.

Closely related to an emphasis on indirection is Liddell-Hart's stress on the use of "interior lines" which reduces the impact of a multi-front war and turns shallow space to advantage. If attacked on two fronts, Israel's armed forces can quickly concentrate their principal strength against one of the attacking armies. Since Israel's forces must travel a much shorter distance to reach the front lines, by massing at the point of greatest need they can quickly achieve local superiority before adversary forces can be joined by those of their allies.[51] Through the effective use of interior lines, an army can convert a multi-front war to a multi-stage war. When the thrust of the first attacker is blunted, the army, working with short internal lines of communication and supply, can quickly turn its attention to a second front. If short lines are properly exploited, they may become an asset rather than a liability The core of defense becomes indirection in stages.

A strategy of staged indirection, however, does not address directly the extraordinary vulnerability to attack of major population centers. Decisionmakers emphasized not only military but also civilian casualties of a major Arab ground and air offensive. Dayan (1959) argued that Israel could not afford to absorb an attack since no territory could be sacrificed even temporarily. Given the lack of depth within the country and the vulnerability to attack of major population centers, fighting must be transferred to the territory of the adversary. Prime Minister Ben Gurion formulated the maxim of "carry the battle into enemy territory" during hostilities in 1948, and the chief of staff immediately after the war con-

50. Yitzhak Rabin, subsequently to become chief of staff of the I.D.F. and then prime minister, analyzed the application of the strategy of the indirect approach in the War of Independence in the armed forces journal, *Ma'arachot* 151 (April 1963).

51. Liddell-Hart (1967) recommended that an army on interior lines mass against the weaker of two opponents so that one front would collapse as quickly as possible. The I.D.F generally has preferred to operate against the stronger or more threatening front first.

curred that analysis of the fighting produced the basic doctrine of defense which characterized subsequent defense planning:

> We have to think along different lines from those we used to. We cannot build a *defence* plan based on fighting in our own territory; that means of course that we have to transfer the war to the enemy's country. We can see all the borders of our state as one battlefield. The operational goal of our planning is to take quick decisive action and to transfer the war to the enemy's territory (Yadin, 1959:39-40; emphasis added).

The "offensive execution of a defensive strategy" became a central strategic concept (Laskov, 1968b). The transfer of combat beyond Israel's borders was consistent also with the assumption of a short war and active interest by external powers; Israel could not afford a ceasefire imposed within the armistice lines. In determining their defensive strategy, Israel's planners focused on the amount to lose and chose the risk-averse option of the transfer of combat.[52] Defense through offense became the axiom of operational planning (Tal, 1976).

To transfer combat to the territory of the adversary and to achieve a rapid breakthrough, Israel's planners emphasized the advantage of a first strike, particularly by the air force. Decisionmakers, especially after 1956, assigned a high priority to the air force as the instrument of preemptive attack. Air support and reconnaissance are important to an army engaged in forward mobile operations, and a preemptive air strike at the beginning of the war may ensure air superiority in the subsequent ground fighting, where desert conditions offer virtually no protection from attacking aircraft. Most important, given the assumption of a short war, neither side has enough time to recover from the damage of a powerful first strike.

Allon examined in detail Israel's vulnerability to a surprise attack both on the ground and in the air and discussed the concept of an "anticipatory counterattack" to reduce the cost of such an attack:

> Israel's only way of saving herself from such a surprise attack was to maintain her military readiness and her moral title to carry out an anticipatory counter-attack. This is how I define the term: Israeli operational initiative taken against concentrations of enemy forces and the occupation of enemy territory of targets having a vital security significance, at a time when the enemy is mustering his forces for an attack, but before he has had time to actually start his offensive (1970:73).

He then explained the necessity for such a preemptive attack.[53]

52. A choice to transfer the fighting beyond the frontiers of Israel is risk-averse in that it concentrates on loss and reduces the probability of unacceptably high damage within the borders of Israel. Once the choice to use force is made, risk-aversity is replaced by risk-acceptance in battlefield strategy and tactics. The battlefield strategy of the I.D.F places a high premium on taking considerable risks in expectation of immediate and substantial gains (Horowitz, 1970:202). Before choosing to defend, the focus is on loss; once defense begins, the focus is on gain.

53. Allon is quoting his own arguments written in 1959 in Hebrew in *Massach Shel Hol*

> The realities of the situation were that the enemy was concentrating his forces with an attack in view, that such preparations for an offensive were an integral part of the offensive itself, and that the enemy was bent on securing mastery of the air by an attack on Israel's air force while it was still on the ground, which, if successful, would at one stroke paralyze Israel's whole defence structure and expose her to total defeat. Given this situation, Israel was entitled, indeed called upon, to wrest the initiative from the enemy.
> In an anticipatory counter-attack, one would aim first and foremost at air superiority. This was to be achieved by destroying the enemy air force and its installations on the ground. One would then aim at breaking the concentration of land forces and taking up suitable positions on enemy territory to prevent a resumption of the aggression (1970:73-74).

Allon does not distinguish an anticipatory counterattack from the more widely used concepts of preventive and preemptive attack. Harkabi, a former director of Military Intelligence and one of Israel's leading strategic thinkers, defines a preventive attack as the initiative of the deterrer while a preemptive attack occurs after hostilities have been initiated by the adversary: "A preemptive attack is launched upon the enemy at the very commencement of the latter's attack. In both preemptive attack and preventive war there is an element of advance punishment, but with preemptive attack the advance punishment is for actions the other side has already initiated. There is therefore a substantial degree of certainty that these actions will indeed be carried out. The anticipated aggression already appears to be a matter of fact rather than conjecture about actions in the distant future" (1966:43-44).

A preventive attack is an option only when decisionmakers consider that the balance of military capabilities threatens to shift against Israel. Although an imminent attack is less likely than when other *casus belli* occur, preservation of an effective deterrent posture may encourage the choice of a military response. Allon refers to a preventive attack when he suggests that Israel may choose to respond "sometimes months ahead" (1970:74). The sudden expansion of the armed forces in Egypt after 1955, for example, challenged Israel's assumptions about the likely outcome of a future war. Its militia system was designed to defend in a war of infantry; Israel's military planners, like many others, had extrapolated from the last war. The acquisition by Egypt of substantial amounts of armor, motorized equipment, and jet aircraft dramatically increased the likelihood of a rapid breakthrough by Arab forces. The mobility and speed of armor increased the importance of air power which could disrupt moving columns in open desert terrain. As Israel's control of the skies became more important for defense, a strike at enemy airfields became an essential component of military planning.

(*A Curtain of Sand*). Rather than translate his argument, his own English version is used after checking it with the original Hebrew written ten years earlier, prior to the Six Day War.

The change in quantity and quality of equipment led Israel's decisionmakers to consider a preventive attack in 1955. They argued that shipments of Soviet weapons to Egypt would not be matched by equivalent supplies from Western sources to Israel. The imbalance in quality as well as quantity made it imperative, leaders of the air force concluded, to destroy an adversary's air force on the ground in the first few hours of battle. In November of 1955, Commander in Chief of the Air Force Tolkovsky recommended a preventive air strike against Egyptian airfields and promised to achieve air superiority within two days without outside help. Ben Gurion and Dayan, then chief of staff, did not concur, however, in the estimate of Israel's aerial capability and rejected the proposal. The prime minister chose the option of preventive attack eleven months later when the support of a great power was assured.

Other unacceptable violations of the status quo would signal intent by an adversary to initiate hostilities and consequently a choice of preemptive force. Allon's concept of an anticipatory counterattack generally refers to such a preemptive attack.[54] Preemption had the additional advantage of reducing not only civilian but also military casualties. When the threat of air strikes against Israel's civilian centers was reduced, the air force could turn to close support of advancing ground forces. Inevitably, the number of battlefield casualties would decline if the army could draw freely on the fire power of the air force. Finally, a preemptive strike would shorten the war. The logic of low casualties, limited manpower, and dependence on external sources of supply which dictates a short war extends to support a preemptive strike as a principal defensive option.

These two principles—the transfer of combat to adversary territory and preemption—provide the guidelines for Israel's strategic planning. Both imply speed and initiative. Dayan, in analyzing the Sinai campaign, underlined the importance of speed:

> I stressed the point that speed was the key factor. We must end the campaign in the shortest possible time. The longer it lasts, the greater will be the political implication—pressure from the United States, the dispatch of volunteers to aid Egypt and so on. It is not, however, only political considerations that call for speed. From the operational point of view, rapidity in advance is of supreme importance to us, for it will enable us to profit from our basic advantage over the Egyptian army (1966:34-35).

54. Evron distinguishes four types of Israel-initiated war: "the preventive mode, when there was a danger that the military balance might shift in favor of the Arab side in the short or medium range; the anticipatory mode, as in 1967 when there was a large threatening concentration of Arab forces along Israel's borders; the preemptive mode, in case there was a very high probability of imminent attack by the other side; and, lastly, as an instrument to enhance Israel's deterrent posture" (1976:166). These four types are not necessarily mutually exclusive: intelligence may estimate a high probability of attack when troops are concentrated; or decisionmakers may consider a shift in the military balance a threat to an effective deterrent posture.

Strategic and tactical doctrine were consistent in their emphasis on speed and initiative; a preemptive strike across Israel's frontiers became an accepted strategic assumption.

Major questions of timing and implementation of a preemptive attack nevertheless remained unspecified. This lack of specification is related to a third element in Israel's strategic doctrine—surprise. As early as 1950, Yigael Yadin, then the chief of staff, analyzed the lessons of the War of Independence:

> The full utilization of the advantages of the strategy of indirect approach stressed again that of all principles of war, the principle of surprise is the most important one. All of the other principles could be considered secondary and derivative, necessary for the achievement of the element of surprise. Of these secondary principles the following stood out: the offensive spirit, concentration and mobility. Only when we utilized all these principles did we achieve complete surprise: when we achieved surprise, we won the battle (1950).

In "Operation Kadesh" in October 1956 (the Sinai Campaign), Israel's strategists based their planning on surprise and deception. Initially they attempted to convince their opponent—Egypt—that military action was to be directed against Jordan, informal "word-of-mouth" mobilization procedures were used, and the emergency system of radio announcements was avoided until almost the last moment, 28 October. Mobilization was then justified by intelligence and information officials as a response to the entry of Iraqi troops into Jordan. In the second stage, offensive action on the first day, 29 October, was limited to the seizure by a paratrooper battalion of the Mitla Pass; army planners hoped to convince Egypt that this was only a somewhat larger reprisal raid (Dayan, 1966:61-63). The planning of the Sinai Campaign was consistent with much of the "strategy of indirect approach": statements of "alternative goals" or deliberate emphasis on several possible targets to confuse an adversary;[55] a strike in an unexpected zone deep behind adversary lines; a departure from previous patterns of operation which could have been anticipated by military officers on the other side; and coordination of strategic and tactical surprise. Operation Kadesh terminated with a very low level of military casualties (191 killed), and planners continued to emphasize the importance of surprise in the decade after Sinai. Yitzhak Rabin, the chief of staff in 1967, in a *post hoc* analysis of Israel's political and military thinking in the period preceding the Six Day War, argued that two axioms were

55. Liddell-Hart (1967) placed particular emphasis on the concept of "alternative objectives" to make the calculation of an opponent more difficult. If decisionmakers emphasize alternative objectives, this may increase the uncertainty of an opponent. At best, such a strategy may cause an opponent to choose to defend the wrong objectives and, at worst, the opponent may disperse his forces to reduce the risk of surprise, thereby decreasing the cost of the subsequent attack. See also Whaley, 1969:A541-542, for an analysis of surprise as strategy in 1956.

fundamental: "Israel must not get into a situation where the Arab states dictate the time and conditions of opening warfare; and Israel must not lose its capacity for strategic surprise" (1971).

Surprise may complement speed and initiative.[56] If an opponent is permitted to determine either the field or the moment of battle, then Israel's forces lose the advantage of a first strike. A preferred strategy is to transfer combat to adversary territory in an unanticipated quick attack. The exploitation of the "line of least expectation" may make the achievement of air superiority and the transfer of combat easier in the first stages of the battle. It increases Israel's qualitative superiority by increasing the disorganization of adversary forces and by permitting the I.D.F to exploit its superior responsive capability and flexibility. A strategic approach which emphasizes surprise increases the density of the "fog of war" in the first stages of the battle. "Fog of war" refers to the effect of the complexity and unpredictability of warfare on the availability of immediate, comprehensive, and reliable information about the battlefield. The greater the fog of war, the heavier the burden on the command, communication, and control system of the adversary.

Israel's system of command and control stresses flexibility which enhances the initial advantages derived from strategic surprise. Military planners developed a system of "optional control" at the tactical level of command. In this system, the power of immediate decision is left with units in the field, and higher echelons of command intervene when they think it necessary to provide an overview. Otherwise, unit commanders report back continuously but do not have to wait for orders before making decisions (Horowitz, 1970). Such a flexible system maintains the temporary advantage provided by preemption, rapid transfer of battle, and quick and mobile operations. Surprise may increase the fog of battle for the adversary while imposing no additional constraints on the operations of Israel's army. On the contrary, surprise may disorganize the forces of the opponent, and battlefield objectives may be achieved at a lower level of casualties. Israel's strategic and tactical doctrines were coherent: strategic surprise reinforced the advantages of speed and initiative in the first stages, and these advantages then were exploited through flexible systems of command and control as the battle progresses.[57]

56. Surprise is not necessarily related to mobility and speed of attack. If an attack plan is mobile, then surprise may increase its effectiveness only in the first stage until the adversary has time to organize its forces. The ability of an opponent to regroup and reorganize while under attack will be critical in determining the effect of surprise. An attacker may also use surprise without mobility of attack. In 1973, for example, the Egyptian General Staff planned a strategic surprise linked to static and fixed lines of battle. Acknowledgments to Yair Evron for the analysis of the relationship between surprise and subsequent battle tactics.

57. The concept of the "fog of war" can be applied as well to the period preceding the attack. In the prewar period, a strategy of deception may be used to increase the likelihood of adversary surprise. False signals, or "disinformation," deliberately are sent to the adversary to confuse the calculation of the likelihood of attack. For an analysis of Israel's use of deception as a strategy, see Whaley, 1969:A530-546 and A572-604.

Surprise as an offensive concept is one part of a larger decisional problem of timing. Decisionmakers must consider whether or not the context is appropriate for preemption and, if so, when. The emphasis on strategic surprise suggests that timing cannot be specified in advance; it is context-dependent. Moreover, calculation of the likelihood of surprising the adversary is one factor, among others, that affects the choice of preemption. Allon recognized

> the avowed duty never to resort to an action of this kind unless and until the absolute necessity for it had been established beyond reasonable doubt, and having been established, had also been subjected to the most serious political scrutiny. It might be difficult, but it was not impossible, with the help of efficient intelligence services such as Israel possessed, to distinguish between the massing of forces for an attack and, say, divisional manoeuvres, or one further move in a war of nerves. These were the discriminations that Israel was required to make (Allon, 1970:74-75).

This examination of the appropriate timing of preemption raises several issues. First, policymakers must estimate a high probability of attack to decide *whether* or not to preempt. Allon suggests further that, even when decisionmakers are confident of attack, the option of a preemptive strike must still be subjected to "the most serious political scrutiny"; that is, factors other than the high probability of an adversary attack must be considered. Finally, he notes the absence of a set of decisional procedures to specify when Israel's attack should be launched. While more complete and coherent than the concept of deterrence, the doctrine of defense does not establish programs for the choice of preemption as a response to a likely failure of deterrence.

Strategic Doctrine and Choice

In their examination of the substance of the policy environment Israel's concepts of deterrence and defense address the principal components of the security dilemmas that those responsible for national security are likely to face. Indeed, military and civilian decisionmakers shaped and shared much of the argument, and some of those who formulated central assumptions—Allon, Dayan, Rabin—would be important participants in the national security crisis of 1967. The examination of the logic of strategic arguments prevailing before 1967 suggests a somewhat uneven impact of doctrine on process and choice. The more complete and coherent the set of strategic concepts, the easier an approximation to some variant of an analytic procedure. Flaws in the logic, however, could translate into constraints to rational choice. The first three requirements of a logical strategic argument—valuation of interests, specification of the object of deterrence, and examination of the calculus of an adversary—impinge most strongly on problem diagnosis, search for information, estimation, and revision.

The last two requirements—a credible threat to retaliate and appropriate defensive options—relate directly to search for and evaluation of options.

At the core of a deterrence argument is an examination of the worth of the interests at stake and the cost of their protection. A subjective valuation of interests is a logical prerequisite to a delimitation of the appropriate scope of deterrence. In their demarcation of *casus belli*, Israel's leaders did specify interests that were worth going to war to protect. But the quality of the valuation was uneven: on at least two of the six issues—concentration of troops and a naval blockade—comparison of the cost of protection with the interest at stake was rudimentary.

Even though valuation of interests was incomplete, deterrence could rest on the expectation that an adversary would acquiesce rather than challenge once a *casus belli* was declared. There is little evidence, however, that Israel's leaders did consider these risks carefully before formulating their intention to deter. The consequences of this omission are compounded by the interconnectedness of interests which deterrence highlights. Just as those responsible for national security do not appear to have considered seriously the likelihood of deterrence failure, so they paid little attention to the costs of permitting deterrence to fail. The argument was flawed by incomplete valuation of intrinsic interests and by the failure to consider the related costs of maintaining a credible deterrence reputation. On matters of critical importance, strategic arguments fell far short of norms of completeness and coherence. Deterrence was not carefully delimited.

The designation of *casus belli* as the core of deterrence could have considerable impact on processes of problem diagnosis and definition and on estimation of adversary intent. Because Israel's leaders had declared certain actions to be provocations to war, they should find it easy to diagnose a problem should an unacceptable action occur. Policymakers working with these concepts would have little difficulty recognizing and structuring a problem for decision.

The specification of *casus belli* was designed to communicate to potential challengers a commitment to a given set of conditions—conditions such as freedom of passage through the Straits of Tiran, low levels of militarization along Israel's border, and the exclusion of foreign troops from the West Bank of the Jordan. Through repeated demarcation of the unacceptable, Israel's leaders attempted to influence the calculus of their opponents. They spent little time examining the basis of their adversaries' calculus and the conditions which would provoke a challenge. Strategic doctrine does not examine formally, for example, the relationship of capabilities to intention. Indirectly, however, the designation of *casus belli* and the regress of expectations implicit in deterrence simplified the estimation of intentions. Because the defender anticipated that the challenger knew that the defender considered certain actions unacceptable, commission of any

one action would indicate deliberate intention to challenge deterrence. Information relating to any of these *casus belli* was not likely to be discounted or denied.

This logic breaks down if the scope of the unacceptable is ambiguous: violations committed by an adversary unknowingly rather than deliberately cannot be construed as deliberate challenge. When the object of deterrence is ambiguous, the difficulty of information-processing increases. The risk of faulty estimation and miscalculation is compounded further if those attempting to deter are unaware of the ambiguities in their signals; at the extreme, leaders may consider deliberate what is inadvertent. The ambiguous formulation of one of the major causes of war, the concentration of troops, runs such a risk; the scope and limits of unacceptable action remain undefined. At best, decisionmakers working with these strategic assumptions could get little help in reducing uncertainty and, at worst, they could seriously miscalculate the intentions of an adversary. The other *casus belli* are more precisely formulated and can serve as valid indicators of intentions. Israel's leaders, especially those who had participated in the formulation of the *casus belli*, could draw on these strategic arguments to assess the significance of relevant information and revise their estimates of their adversary's intent. The more complete and coherent the strategic argument, the more helpful in subsequent information-processing.

The formulation of deterrent threats and the design of defensive options can have considerable impact on the search for and evaluation of options. If leaders are committed to a specific response, the boundaries of the problem for decision are narrowed as alternatives are foreclosed. Options have been identified, considered, costed, and formulated as programs. Generally speaking, commitment to a specific course of action is not usual, especially when more than one option promises to produce the desired consequences. If the modalities of the threatened retaliation remain flexible, the range of options leaders can identify and evaluate increases. It is when commitments to respond are flexible that the quality of strategic arguments which examine defensive options is particularly important.

Israel's concept of defense was unambiguous in its recommendation of mobilization as an initial response to imminent deterrence failure. The small size of the standing army makes imperative a call-up of some reserve forces if any further defensive action is anticipated. The logic of a militia system was so obvious that analysis was standardized over time to serve as a surrogate program for choice. The pronounced risk-aversity of strategic doctrine virtually made mobilization an automatic choice.

This logic is flawed, however, by the failure to distinguish partial from large-scale mobilization and to assess their respective contribution to deterrence and defense. Nor are different degrees of warning or different

casus belli matched to appropriate levels of mobilization. Strategic concepts do not differentiate those conditions which would justify large-scale call-ups from those where partial mobilization would be an appropriate response. The omissions are especially unfortunate when a militia system makes mobilization important and a small economy makes mobilization expensive.

The treatment of the defensive options which follow mobilization is much stronger. Strategic concepts examine the relevant environmental constraints and highlight an option of preemption if an attack seems imminent. The emphasis on preemption is so overwhelming that search for additional options is likely to be limited; the quality of the logic reduces the imperative to engage in extensive search for a range of alternatives. Analytic search is as likely to be constrained by the logical quality of prevailing strategic argument as by defective cognitive processes.

Strategic concepts also list additional factors which decisionmakers should consider in evaluating an appropriate response to an imminent failure of deterrence. Two important considerations are the likelihood of military intervention by a great power on behalf of an adversary and the probability of great power support to deter such intervention and supply necessary military equipment. These factors tap the two values of international political support and military security. Strategic doctrine also emphasizes the value of human resources when it stresses the importance of preemption and surprise in reducing the number of civilian and military casualties. When urging the transfer of combat to the territory of an adversary, military planners stress the unacceptably high cost in human life of combat within the borders of Israel.

Some of these factors may favor preemption while others constrain its choice and encourage the identification and evaluation of other options. A decisional dilemma of considerable value complexity is created. Neither the concept of deterrence nor that of defense establishes procedures for the ranking of competing dimensions; their relative weight is not considered, but the strong emphasis on cost predisposes a focus on loss. The enumeration of multiple factors for consideration decreases the likelihood that decisionmakers will ignore competing dimensions of value. Because strategic concepts highlight multiple dimensions of value and the complexities of choice, leaders who draw on these arguments are less likely to deny value complexity. Approximation to analytic evaluation is encouraged by the inclusiveness of available strategic logic.

Even though the argument for preemption is strong, the general consideration of defensive options is not sufficiently differentiated. Strategic concepts do not relate different kinds of responses to the different *casus belli* and do not detail the required capabilities. While preemption may be the appropriate response to imminent attack or militarization of

the West Bank, a concentration of troops along the borders or a blockade of the Straits may require different kinds of responses. The design of a graduated series of responses is important also if a piecemeal challenge to deterrence is plausible. Just as strategic arguments failed to distinguish and link levels of mobilization to different kinds of challenges, so they are silent on the relationship between the objects of deterrence and the appropriate retaliatory response. These omissions are not trivial.

Strategic concepts provide no explicit decision rule for policymakers. Although they examine complex constraints, they establish no procedures to weigh competing factors. Because more than one option—preempt or wait for great power support—can be deduced from prevailing strategic assumptions, they alone cannot provide a sufficient explanation of the decision leaders make; a full explanation of choice must go beyond strategic logic to the processes decisionmakers use. This inclusion of factors which pull in opposite directions, however, is an asset rather than a liability to leaders who work in a complex environment. Because it mirrors the difficulties of decision, completeness in argument is a help rather than a hindrance.

Even if leaders must develop their own decision rule, the pervasive emphasis in strategic argument on the narrow margin of security and the unacceptably high cost of absorbing a first strike suggests a precept of considerable risk-aversity. This focus on loss is likely to lead decisionmakers to emphasize cost to correct for the aversion to risk. If Israel's leaders do not choose on the basis of the worst case, they will give it considerable attention.

This review of strategic logic before 1967 suggests that its quality is likely to have considerable impact in shaping the process and rationality of choice. A number of preliminary conclusions suggest themselves. First, if leaders use strategic arguments as the relevant set of decisional premises, they are not likely to follow an exclusively cognitive path to choice. Both because concepts are complex and because more than one option can be deduced from these premises, strategic concepts are a necessary but not sufficient component in the explanation of decisions. Second, because strategic arguments are not perfectly complete or coherent, cognitive-cybernetic paths to choice are precluded in all but the single case of some level of mobilization as a first-order response to challenge. Strategic arguments do not provide the programs.

Third, insofar as strategic arguments are complete, they reduce the constraints to analytic performance. Particularly in the tasks of estimation, revision, and evaluation, strategic concepts can be of considerable assistance by highlighting factors for the attention of policymakers. The usual cognitive shortcuts of denial and discounting become more dfficult when discrepant information and value conflict are made salient. Strategic

arguments neither explore nor ignore the dimensions of complexity: because value conflict is not explored, evaluation is necessary, and because complexity is not ignored, analytic evaluation is easier. The completeness that does exist within prevailing strategic arguments promotes some variant of a cognitive-analytic path to choice.

Fourth, the areas of incompleteness and incoherence within strategic arguments are not trivial in their consequences. The logic is flawed on issues central to the argument: incomplete valuation of interests; failure to consider explicitly interconnectedness among interests; some ambiguity in designation of objects of deterrence; and incomplete and only partially coherent examination of relationships between warning and response and challenge and defense. If the best insurance against defective decision-making is the quality of assumptions leaders begin with, important flaws in strategic logic are likely to impose severe constraints to rationality. In May of 1967, Egypt challenged deterrence and forced Israel's decisionmakers to reconsider the logic of their concepts of deterrence and defense. The next three chapters examine the quality of their argument and inference on their path to choice.

chapter **5**

The Decision to Mobilize

Introduction

In the first week of May 1967, violence on the Syrian-Israel border increased sharply. Tension between the two states was not unusual, but, in early April, a routine incident had exploded into major violence. As they had done many times before, farmers in the north of Israel sent their tractors to work the agricultural land in the contested demilitarized zone. Syria responded by shelling Israel's agricultural settlements in the valley and, as the firing increased, Syria's and Israel's air forces engaged in a major air battle. Six Syrian MIGs were shot down in the course of combat, and Israel's planes pursued Syrian fighters toward Damascus (MER, 1967: 176-177). Renewed shelling of the border area and agricultural settlements and a sharp increase in the mining of roads within Israel in late April and early May further escalated the tension between Israel and Syria.

Israel's decisionmakers, in a series of public statements, attempted to deter further Syrian harassment along the border. When it became clear that a strategy of deterrence was not succeeding, policymakers shifted to one of compellence. On 7 May, Israel's cabinet decided to launch a limited retaliatory raid to compel Syria to reduce its support of cross-border raids.[1]

1. Israel's intentions toward Syria in the early part of May have been the subject of extensive controversy. Egypt claimed in May and June of 1967 and later that Israel intended to launch a major invasion of Syria to overthrow the regime. In a series of speeches and in a memorandum he circulated at the end of May, 1967 to all countries who maintained diplomatic relations with Egypt, President Nasser stated that he had received intelligence information from the Soviet Union reporting that Israel had concentrated thirteen brigades on the border in preparation for an attack planned for 17 May (Nasser, 1967a). The memorandum alleged that the plot had been exposed on 14 May when the Sixth Fleet was on maneuvers in the Mediterranean (cited by Eban, 1977:382). These allegations were widely reported and repeated in the Soviet press and by Soviet decisionmakers. The evidence, however, is somewhat more contradictory and difficult to interpret. Israel's chief of staff, while denying that Israel intended such action, subsequently interpreted Egyptian behavior as a response to its inaccurate perception that Israel intended some such action (Rabin, 1967b). Foreign Minister Eban subsequently explained the strategy of his government: "[Israel] would reinforce defensive remedies on its own soil by minefields and barbed wire, and it would interpose a stage of verbal warnings to Syria before any military action was approved. Only if all this failed and violence had to be met by force would its response come into effect. Even then, it would be swift and of local scope, falling short of a general confrontation and leaving the existing borders intact" (1973b:196-197). Eban's account, though after the fact, is

From 9 to 13 May, several senior officials—Prime Minister Eshkol who also held the portfolio of minister of defence, Foreign Minister Eban, Israel's ambassador to the United Nations, Gideon Rafael, and a high-ranking military officer—all issued public warnings of the grave consequences should the border incidents continue.

During this period, the Soviet Union reported both directly and indirectly to Egypt that Israel was concentrating large forces near the Syrian border in preparation for a massive attack and urged Egypt to take appropriate measures both to deter and to defend. On 13 May, President Podgorny repeated these warnings in his discussions with Anwar el-Sadat who was visiting Moscow and promised assistance to Syria and Egypt should Israel attack (Heikal, 1973). Sadat recalled:

> I was seen off at Moscow airport by Mr. Semenov, the Soviet Deputy Foreign Minister who was accompanied by the Speaker of the Soviet Parliament. They told me specifically that ten Israeli brigades had been concentrated on the Syrian border. When I arrived back in Cairo, I realized that the Soviet Union had informed Nasser of this (1977:171-172).

The Soviet foreign minister added a further intelligence detail that Israel might attack between 16 and 22 May (Dayan, 1976:246-247 and Eban, 1977:318). The next day, at 1430 hours Cairo time, the Egyptian army was put on a full state of alert, the head of the reserve administration was ordered to mobilize men and equipment, and army units stationed along the Canal crossed and began to move into Sinai. The Egyptian chief of staff, General Fawzi, flew to Damascus to coordinate military action.[2]

On that same afternoon of 14 May, General Rabin, Israel's chief of staff, was informed by the director of Military Intelligence, General Aharon Yariv, that the Egyptian army had been placed on full alert and that some units had crossed into Sinai to join Egyptian forces normally deployed in the desert. At 0930 hours the following morning, immediately before a military parade in celebration of Israel's Independence Day, General Rabin informed the prime minister of Egyptian troop movements.

This information on Egyptian troop movements was the stimulus to

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consistent with the strategy of compellence practiced by Israel since the early 1950s. The literature on the charges and countercharges is enormous, contradictory, and beyond the scope of this study; any definitive interpretation of Israel's intentions must await the opening of cabinet papers. What is certain—and immediately relevant—is that the Soviet Union warned Egypt that Israel intended to initiate a major action against Syria.

2. There is also some controversy about President Nasser's intentions. The Egyptian minister of war, Shams Badran, testifying at the trials of several senior officials in early 1968, reported that General Fawzi, the Egyptian chief of staff, had flown to Syria after the Soviet allegations of troop concentrations and had informed President Nasser that there were no signs of troop concentrations or unusual activity. See Badran, 1968. If Badran's testimony is correct, the Egyptian troop movements could not have been designed to deter a punitive action by Israel. Sadat recalls, however, that, after receipt of Soviet information, "President Nasser therefore ordered Field Marshal Amer to concentrate Egyptian forces in Sinai. Although his real aim was to deter Israel, the situation soon got out of hand" (1977:172).

decisional activity by the responsible civilian and military decisionmakers in Israel. To process this information, they drew on a series of assumptions or hypotheses which were developed from prevailing strategic concepts and incorporated indicators of capability and intent (Table 5.1). Policymakers used these arguments, individually and cumulatively, to interpret ambiguous data and predict the probability of an Egyptian attack. These estimates of Egyptian intent and capabilities affected their evaluation of policy options and their choices to deter and defend.

TABLE 5.1

EXPLANATIONS OF LIKELY EGYPTIAN BEHAVIOR

	Probable Behavior	*Hypothesis or Explanation*
H_1	No Attack	Capability argument; Egyptian capabilities were inadequate as long as Egyptian troops were committed in Yemen.
H_2	Attack	Egyptian capabilities adequate; forces can be transferred easily from Yemen.
H_3	No Attack	Intent argument; Egypt bluffing to deter a reprisal by Israel against Syria; troop movements are diversionary.
H_4	Attack	Troop movements are preparations for attack.
H_5	No Attack	Capability argument; concentration of Egyptian forces in the Sinai inadequate to attack.
H_6	Attack	Forces in the Sinai adequate for Egyptian strike.
H_7	No Attack	Capability and intent argument; Egypt deterred by Israel.
H_8	Attack	Egypt undeterred in the face of weakened deterrent posture of Israel.
H_9	No Attack	Capability argument; Arab allies not sufficiently united to permit a successful attack on several fronts.
H_{10}	Attack	Arab unity sufficient to permit a multi-front attack.

16 May: The Decision to Mobilize Partially

Israel's decisionmakers did not expect President Nasser to come to the assistance of Syria. Military Intelligence estimated that Egypt would not be prepared to fight a major war until, at the earliest, 1970 (H_1; Eshkol, 1967b and Yariv, 1974).[3] Egyptian forces were heavily committed in the civil

3. In a speech to the Knesset in the fall of 1968, Eshkol expressed his long-standing skepticism of the forecast by Military Intelligence that Egypt would not be prepared to fight a major war for two or three years: "The experience of the Six Day War has shown that the concept of deterrence is a relative one. As you may remember, it was the general view in 1967 not only here but among experts abroad that no Egyptian assault was to be expected before 1970" (1968a). Earlier, he had used more colorful language to describe the intelligence

war in Yemen, and intelligence analysts argued that present Egyptian capabilities were inadequate for a serious offensive (Eshkol, 1967b). The prevailing assumption was that Egyptian capabilities constrained their intent. Moreover, military analysts suggested, President Nasser was sensitive to the risk of escalation through miscalculation. Unprepared for a large-scale offensive, he did not wish to be "dragged" into such a conflict through escalation from local violence ("Mizrahan," 1967[4]).

Although Israel's decisionmakers were surprised, they were not threatened. Confronted by discrepant information, they quickly revised their assumption that Egypt would remain aloof from the escalating conflict between Syria and Israel and interpreted the Egyptian troop movements as limited and diversionary rather than as preparation for a major attack (H_3). The chief of staff subsequently recapitulated the prevailing interpretation of Egyptian intent: "In this phase, the Egyptians wanted to deter Israel, to demonstrate the deterrence of Israel before Syria and not to initiate or create conditions that would lead to war" (1967b). To support his inference of Egyptian intent to deter, Rabin suggested that Egyptian decisionmakers were drawing an analogy to 1960 when Egyptian forces deployed, Israel's forces responded with a limited mobilization, and both sides withdrew. President Nasser could claim that Israel had been successfully deterred from attacking Syria in 1960 and would be deterred again in 1967 (Rabin, 1967b). The chief of staff assumed that his Egyptian counterparts were drawing an analogy to 1960 and that they expected Israel to know that Egypt was doing so; deterrence rested on the regress of expectations.[5]

Decisionmakers argued not only that intent was limited, but also that capabilities were inadequate (H_5). As General Gavish, the commander of the southern front, later recalled:

> On the afternoon of the 15th I received a call in Beersheva from the Chief of Staff, Yitzhak Rabin, who told me it seems a movement of Egyptian units into Sinai had begun. He said that it was unclear what the aims of the Egyptians are, but it does not seem serious. I estimated that as long as there are one-and-a-half Egyptian divisions in Sinai, the matter is not serious. This is not a force that can attack the State of Israel. A state that has lost in two wars, in 1948 and 1956, would not go to war with such a small force (1970).

From limited capabilities, Gavish inferred that an attack was unlikely. Despite considerable uncertainty about the "aims" of Egyptian decision-

forecast: "We knew about Egypt's economic difficulties, about the Egyptian army being tied down in Yemen. The calculations of all the great luminaries as well as of the lesser military lights were—Nasser will not fight before 1970, maybe not even during the first years after 1970" (1967b).

4. Colonel "Mizrahan" was a pseudonym for an official analyst of the Israel Defense Forces. In Hebrew, the term means "Orientalist."

5. Rabin's assumption appears to have been correct. President Nasser did consider that Israel's decisionmakers would recall the analogy of Operation Rotem in 1960 and so interpret his intentions (Heikal, 1973).

makers, the General Staff and Military Intelligence estimated the probability of attack as low.

The prime minister nevertheless considered the information sufficiently important to warrant an unscheduled meeting at his home with Foreign Minister Eban and Ya'acov Herzog, director-general of the prime minister's office. Officials also attempted to reduce the chance of unintended escalation through miscalculation. The foreign minister instructed Israel's ambassador to the United Nations to assure Egypt and Syria, through the secretary-general, that Israel had no intention of initiating conflict in any sector. This was not the first attempt to reduce the likelihood of escalation through miscalculation. Four days earlier, the director-general of the Foreign Ministry, A. Levavi, had called the attention of the Soviet ambassador to the escalating violence on Israel's northern border. When Ambassador Chuvakin had countered that Israel was concentrating troops on the Syrian frontier, he was invited personally to inspect the front. As he had done several times before, the ambassador declined the invitation.

Consultations between Eshkol and the military command continued throughout the day into the evening. Decisionmakers considered not only unintended escalation but also the requirements of defense. During the day, the prime minister approved Rabin's instructions to General Gavish in the south to reinforce the front with additional armored units. Available forces were very thin since only one battalion and several dozen tanks were on duty (Gavish, 1970 and Rabin, 1979:68). At an evening meeting, although there was no change in the intelligence evaluation, the prime minister, the chief of staff, and the chief of operations agreed on the necessity to alert the regular army and transfer units to the south. An alert and transfer of regular forces were fairly routine operations which were part of standard military programs. To be on "the safe side," decisionmakers followed routine procedures to choose the first and most obvious step in a series of options (Weizman, 1973). Searching by analogy, they evaluated and chose through programmed procedures.

On 16 May, Military Intelligence reported that Egypt had moved 30,000 troops, 200 tanks, and a large number of planes to reinforce the troops already deployed in Sinai. Rabin presided over an early morning meeting at General Staff Headquarters where military decisionmakers discussed the possibility of mobilization. The prime minister reported the continuing troop deployments to his colleagues at the regular cabinet meeting later that day at 1600 hours. Eshkol interpreted Egyptian intent as deterrent rather than offensive, and Eban noted that this interpretation was consistent with that of Washington and London. The military and diplomatic consensus was that Egypt's president was engaging in diplomatic maneuvers rather than in preparations for a general attack (H_3).

Their low estimate of the probability of attack was based not only on analogy to 1960 but also on an evaluation of military capabilities. Military decisionmakers argued that, as long as Egyptian forces were heavily committed in the Yemen, President Nasser did not have the capacity to attack (H_1). Capability indicators converged with a hypothesis of bluff to support the estimate of Egyptian intent.

Despite the low probability of attack, decisionmakers emphasized the risk of unanticipated escalation—"There was always the danger of an unexpected deterioration of the situation" (Eshkol, 1967d). The prime minister subsequently explained his predisposition to caution:

> When I was told that according to every sign, war will not break out within a year, or within two years, I used to say: "Wherefrom this certainty?" I used to say: "This depends to a considerable extent on one man —a dictator who can decide this matter" (1967c).

This emphasis on a low probability but high cost contingency is consistent with the risk-aversity of Israel's strategic doctrine in the first phase. The cabinet therefore approved the precautionary measures that had been instituted by the prime minister and the chief of staff and authorized additional measures should they be necessary. In the evening, after additional information on continuing Egyptian troop movements, Eshkol, on the advice of Rabin, decided to mobilize a reserve regiment of armor as well as some artillery (Rabin, 1979:69).

The Rationality of the Process

The choice of partial mobilization can best be explained by a combination of cognitive and cybernetic processes (Table 5.2). Prime Minister Eshkol and his military advisers used prototypical cognitive processes of diagnosis and search to define their decisional problem and identify a policy option. Working by analogy, military officers drew an explicit comparison with Operation Rotem in 1960: indeed, on 16 May, the army spokesman briefed military correspondents about the precedent series of deployments and withdrawals (Weizman, 1971 and 1976:209 and Eban, 1967 and 1977:323).[6] Their earlier experience highlighted the obvious policy option of a partial mobilization of reserves. Search ended with the identification of an alternative closely tied to existing programs. There is no evidence to suggest that Eshkol or the General Staff engaged in

6. Eban writes in his autobiography that on 16 May the military spokesman of the I.D.F. briefed military correspondents on the precedent of 1960 "when Egyptian troops had advanced across Sinai to the Israeli border in demonstrative solidarity with Syria, only to be withdrawn a few weeks later." The foreign minister has a rather particular understanding of the prevalent hypothesis of deterrent or "diversionary" maneuvers: "The prevalent view of military men everywhere seemed to be that Egypt hoped the presence of her forces would give Syria a greater sense of security for the dispatch of guerrilla raiders into Israel" (1977:323). The more generally accepted explanation was that Egypt was attempting to deter a reprisal by Israel against Syria.

further search for additional options. On the contrary, General Weizman, the chief of operations during this period, recalls that "We didn't even consider calling up a significant number of reservists" (1976:209). Analogical reasoning established the contours of the decisional problem and the obvious remedy.

TABLE 5.2

16 MAY: A COGNITIVE-CYBERNETIC PATH TO CHOICE
(Path 2)

STIMULUS:	Movement of Egyptian troops across the Canal into the Sinai.
SEARCH:	By analogy to 1960 to define the problem; through available strategic concepts to identify the obvious policy option.
ESTIMATION:	By analogy to 1960 and by monitoring selected and prevalidated indicators.
EVALUATION:	Reliance on available defensive routines based on risk-aversity.
CHOICE:	A satisficing and incremental choice of partial mobilization.

Estimation of Egyptian intent was the product of both cognitive and cybernetic procedures. When senior military officers interpreted Egyptian troop movements as an attempt to deter a raid by Israel across the Syrian frontier, they drew on analogous experience to infer Egyptian purposes. However, they also tracked a limited number of environmental indicators to estimate the probability of attack and reduce uncertainty. Weizman summarized the monitoring of these prespecified indicators:

> We were sure that there was very little likelihood of hostilities. Together we reviewed the Egyptian steps that would be regarded by Israel as a *casus belli*: a blockade of the Straits or forces of a certain size entering Sinai (1976:209).

When available indicators showed no change, members of the General Staff considered the low estimate of the probability of attack as valid and moved to the routine consideration and recommendation of an appropriate response.

To select the appropriate response, Eshkol and his advisers used cybernetic processes of evaluation and choice. Those who participated in the informal meetings during the two days preceding the partial mobilization recall the routine and programmed procedures of choice. General Weizman remembers that:

> Rabin called me aside and said: "Move such-and-such forces, just in case there's any trouble." *A typical routine move, dictated by basic prudence*, but resting on the assumption that there wouldn't be any trouble (1976:209, emphasis added).

Throughout this period, the prime minister and those he consulted relied on standard programs which incorporated prior evaluation and analysis to recommend the prudent choice. The logic they used was developed earlier

and considered and refined over time. There is no evidence that they went beyond existing programs to consider systematically any additional consequences of the one option they did identify. They do not appear to have discussed, for example, the likelihood that partial mobilization would itself contribute to unintended escalation. Rather, participants in the discussion emphasized that the choice was routine, precautionary, and primarily defensive. The first response to Egyptian troop movements was a conservative and satisficing choice.

As a first cut at a problem, the use of a mixture of cognitive and cybernetic procedures is not difficult to explain. Since neither the prime minister nor the General Staff perceived a serious threat or a deadline,[7] there was little incentive to use demanding procedures; under such circumstances, the use of ordinary rather than extraordinary processes is to be expected. In this case, the stimulus to decision—the Egyptian troop movements of 14 May—though unexpected, had been the object of prior consideration, and precedent experience was analyzed and incorporated within existing programs. When threat and time pressure are low and programs anticipate a stimulus to decision, some variant of a cybernetic choice is likely.

The prime minister, in informal and constant consultation with the chief of staff, also drew on analogous experience to diagnose the problem for decision. To reduce uncertainty, military officers in particular both monitored changes in Egyptian military deployment and also used indicators drawn from strategic concepts to validate their estimate of Egyptian intentions. Prevailing concepts of defense made salient an initial option of mobilization which minimized risk in an inhospitable strategic environment. Eshkol and those he consulted relied on standard programs to recommend a conservative choice. Partial mobilization was risk-averse and prudent: it was not linked immediately to further action, and it permitted a period of further evaluation of the likelihood of deterrence failure; at the same time, it compensated for Israel's lack of strategic depth and narrow margin of security. An incremental and conservative choice is the expected outcome of a cybernetic process shaped by risk-averse strategic concepts.

19 May: The Decision to Mobilize on a Large Scale

After the prime minister and the chief of staff ordered the mobilization of

7 An analysis of the level of threat perception by Israel's decisionmakers in the months of May and June 1967 finds that level to be low on 15 May. On a scale of −1.0 to +5.0, two different measures indicate that the level of threat perception is approximately .02. The same study finds the perceived pressure of time to be low; on a scale of .000 to .008, perceived time pressure in mid-May is only .002. The investigator expresses high confidence in his measure of threat perception but notes that the measure of time pressure may be less valid. He suspects that the measure he used, a content analysis of public documents, indexes only the peaks of "real" time pressure. See McCormick, 1975:52,33. Eban (1977:321) recalls that during this early period, "The scale of these movements created no immediate military threat."

a reserve regiment on 16 May, they waited to evaluate its deterrent effect. If the analogy to 1960 were apt and the lessons of history were relevant, mutual deterrence between Egypt and Israel would prevail, and military forces would gradually withdraw. A pause for evaluation, moreover, is consistent with cybernetic decision-making; further choices are necessary only if the first decision fails to achieve the minimum requirements of policymakers. Evidence that this first choice had failed to manage, much less solve, the problem was not long in coming.

That evening, at 2200 hours, Egyptian Brigadier Mukhtar transmitted to the commander of the United Nations Emergency Force (UNEF), General Rikhye, a letter from Egypt's commander-in-chief, Mahmud Fawzi. In his letter, General Fawzi wrote that "for the sake of complete security of all UN troops which install OPs [observation posts] along our borders, I request that you issue orders to withdraw all these troops immediately."[8] Orally, Mukhtar added that UN forces must be withdrawn from the El-Sabha and Sharm el-Shaykh posts since Egyptian forces intended to occupy the two strategic posts that night. The commander of UNEF explained that he was not authorized to comply and cabled the secretary-general for further instructions. After very brief consultations, U Thant informed Egypt's ambassador to the United Nations that any request for a partial withdrawal of UNEF would be considered as a demand for complete withdrawal of UN forces from Gaza and Sinai. In the opinion of the secretary-general, Egypt was, of course, legally entitled to make such a request.[9] The next morning, at 0600 hours, Radio Cairo broadcast the text of the Egyptian request for a partial withdrawal.

Even as dipomatic activity intensified, Egypt continued to reinforce its military preparedness. By 17 May, two additional divisions had moved into Sinai, and high-flying reconnaissance planes had penetrated deeply into Israel's air space. One plane in particular had photographed Israel's nuclear installation at Dimona. In the past, Israel's decisionmakers had declared that any intent to attack these nuclear installations would be considered a *casus belli*. In Damascus, government spokesmen announced that Syria's armed forces were now on a full state of alert.

Throughout the day, Israel's civilian and military decisionmakers met formally and informally to consider Egypt's request for the partial withdrawal of UNEF and the continuing troop deployments. At an eleven o'clock cabinet meeting that morning Intelligence still estimated the probability of an attack as low. Only one infantry division with armored

8. The text of the Egyptian request is included in the Report of the Secretary-General on Withdrawal of the Emergency Force, 26 June 1967, United Nations Document A/6730/Add 3. Published in the *United Nations Monthly Chronicle* IV, 7, 135-161, citation from p. 136. The report also includes the oral request from Brigadier Mukhtar.

9. The text of U Thant's reply to Egypt can be found in his 26 June 1967 report. The secretary-general also informed the General Assembly on 18 May 1967. See United Nations Document A/6730.

support in the rear had been deployed against the Negev border, and military decisionmakers did not consider such a deployment as a "concentration" of forces (H_5). Using an indicator of limited capabilities, they inferred a low probability of attack (Eban, 1977:323). Senior officers nevertheless considered it necessary to strengthen Israel's weak deterrent and defensive posture in the south. They estimated that they required a period "not to be measured in a few days" to complete military preparations along the border (Eban, 1977:324). The chief of staff suggested that Israel request a meeting of the Security Council to provide additional time for the necessary defensive deployment.

After consulting his staff in New York and evaluating the consequences of this option, Eban rejected Rabin's proposal. The foreign minister reasoned that a request for a Security Council debate could weaken deterrence. Should the Soviet Union veto Israel's request, a likely contingency given its support of Egypt, the ensuing political defeat could provide considerable diplomatic benefit and "vast encouragement" to President Nasser (Eban, 1977:324). Even more important, a request for a Security Council meeting would signal to Egypt a reduction, no matter how temporary, of Israel's intention to resist; it would decrease the credibility of Israel's commitment to retaliate. As long as debate within the council continued, Israel would be unable to choose retaliatory action, and it was difficult to estimate the length of Security Council discussion: "I knew from long experience that it was easier to turn on the tap of United Nations debate than to turn it off" (Eban, 1977:324). Although additional time would be gained, the cost to deterrence compromised the benefit to defense. As an alternative, Eban proposed that Israel's ambassador to the United Nations suggest an immediate visit by U Thant to Cairo and Jerusalem. Should the secretary-general arrange his departure while UNEF forces were still at their observation posts, President Nasser might refrain from further escalation until U Thant's arrival in Cairo. This option would provide the time needed for defense, would not weaken deterrence, and might reduce the likelihood of further escalation. Ambassador Rafael proposed such a visit to friendly delegations in New York.

When formal cabinet and Knesset committee meetings ended, informal consultations among civilian and military decisionmakers continued for several hours. The prime minister met with Eban and Galili of the cabinet, Generals Rabin and Weizman of the General Staff, Director of Military Intelligence Yariv, and other officials from the prime minister's office and the Foreign Office. At a late evening meeting, reacting to a flow of information on continuing Egyptian troop deployments, Eshkol and Rabin decided to mobilize additional military reserves. Although their choice was the next step in a programmed series, the relevance of this set of routines was diminishing as the pace of Egyptian diplomatic and military

activity increased. Already Rabin and Eban had extended their search and evaluation of options beyond available programs in an effort to reinforce deterrence, strengthen defense, and reduce escalation. Because Israel's decisionmakers still considered it possible, however, that some UNEF forces would remain in place, they continued to draw on those programs designed around the presence of buffer forces and chose the prescribed precautionary measures to increase incrementally their level of military preparedness.

Early on the morning of 18 May, Eshkol and Rabin were joined by Eban, Amit, the head of Ha-Mossad, Israel's counterintelligence, the director of Military Intelligence, and other members of the General Staff to discuss the daily intelligence report. Although the probability of attack was still considered low, there were changes in Egyptian military capabilities. Operational activity at air bases in north and central Sinai had intensified, and Egypt announced that its missile bases were in a state of alert with its missiles ready to be fired at the first sign of movement by Israel (Yonah, 1968:78).[10] On the other hand, the Fourth Armored Division, Egypt's most effective striking force, was still positioned on the west bank of the Canal. Syria announced that the mobilization of its reserve forces was now complete. The prime minister approved further mobilization of reserve units, an accelerated delivery of military supplies, and an increase in civil defense preparedness.

More important, news of the decision of Egypt's president to demand the formal termination of UNEF in Gaza and Sinai reached Israel's decisionmakers during the day. The optimistic evaluation that any further escalation might be prevented disappeared; as the foreign minister recalls, "all lenient prediction collapsed" (Eban, 1977:324). An immediate visit by the secretary-general to Cairo was aborted by President Nasser and surpassed by events. The president had explicitly requested that U Thant await a formal invitation although it was already apparent that the secretary-general could not forestall an Egyptian request for the complete withdrawal of the peace-keeping force. Alarmed by the report that the secretary-general was about to order the withdrawal of UNEF in compliance with the Egyptian request,[11] Eshkol and Rabin met later that evening to review ongoing military and diplomatic developments. It was only when the withdrawal of UNEF became likely that both decision-

10. "Major Yonah" was a pseudonym for a high-ranking military officer writing in the army journal *Ma'arachot* of the daily reports of information from Arab countries. Presumably, he relies heavily on data gathered by Military Intelligence.

11. By this time, U Thant had already agreed to the withdrawal of United Nations forces. Considerable confusion existed at UN headquarters in New York, however, and Eshkol and Rabin did not receive definitive information until the following morning, Israel time, which was six hours ahead of New York time. Throughout this examination of Israel's decision process, time refers to local Israel time.

makers considered seriously the possibility of an Egyptian attack (Bar-Zohar, 1970:46 and Rabin, 1979:70-71).

The more salient consequences of a choice to retaliate became apparent even as the likelihood of deterrence failure grew. During the day, Eskhol received his first message from President Johnson following the cycle of troop deployments by Egypt and partial mobilizations by Israel. Though the president principally addressed the by-now less relevant issue of tension along the Syrian border, he did warn that "I cannot accept any responsibilities on behalf of the United States for situations which arise as the result of actions on which we are not consulted" (cited by Eban, 1977:329). The complexity of the decisional problem was obvious: an immediate choice to retaliate, even if deterrence failure appeared imminent, would not meet with American approval. In his reply to the president that same day, the prime minister held Syria responsible for the escalating tension and insisted that Egyptian forces must be withdrawn. Even more significantly, hoping to forestall further Soviet involvement, Eshkol asked President Johnson to reaffirm publicly the American commitment to the security of Israel and to inform the Soviet Union of this commitment (Quandt, 1977:40,41).[12] Implicitly acknowledging the limits of Israel's capacity to deter, the prime minister attempted to draw upon the global resources of the United States. This would not be the last time Israel's prime minister would seek a public commitment to reinforce deterrence.

By 19 May, Israel's estimate of the likelihood of an attack had begun to change. General Yariv presented the daily intelligence report to Eshkol and Rabin at a 0930 meeting. United Nations forces had withdrawn, and Sharm el-Shaykh was now occupied by Egyptian forces while units of the Palestine Liberation Army were stationed along the Gaza border. Egyptian military capability was increasing rapidly: 70,000 soldiers and 600 tanks were now deployed in Sinai. Even more important, infantry from Yemen had been recalled in secrecy to Egypt.[13] The intelligence forecast that Egypt would not be ready to fight a major war until 1970 had been based in large part on the continued involvement of a significant proportion of the Egyptian army—some 60,000 to 70,000 men—in Yemen (H_1). The transfer of troops indexed both an increase in Egyptian capabilities and a change in

12. Quandt (1977) is the only source which cites this request for a public commitment by the United States. As a deputy to Harold H. Saunders in the Middle East Office of the National Security Council from 1972 to 1974, Quandt had extraordinarily good access to relevant American documentary material.

13. Some confusion exists about intelligence information on the Egyptian transfer of troops from Yemen. Burdett (1969:236) reports that Military Intelligence discovered the secret transfer of one infantry brigade and two armored battalions from Yemen. A senior officer of Military Intelligence recalls an explicit report that only infantry were recalled from Yemen; moreover, they were not deployed east of the Suez Canal (Interview, Military Intelligence). His evidence is consistent with that of Heikal (1973) who writes that sizable units, with armor, were moved from Yemen only at the end of May.

Egyptian intent. Military and civilian leaders were nevertheless uncertain of Egypt's purposes. In his assessment, General Yariv suggested that Egypt would continue its military preparations as a prelude to choice among four options: no further action accompanied by a claim that it had deterred Israel from attacking Syria; a strategy of provocation to force Israel to strike; an immediate surprise attack; or a long period of tension culminating in a surprise attack (Rabin, 1979:71).

The seriousness with which Israel's decisionmakers viewed the rapidly increasing troop deployment is underscored by Eban's conversation later that morning with Soviet Ambassador Chuvakin. The foreign minister made explicit the relative weight attached to changes in military capability:

> I emphasized that facts are more important than rhetorical declarations. The bombardment of Manara, the mining of the road to Rosh Pina, the vast concentrations of Egyptian troops in Sinai were facts which must be considered to be far more serious than any speeches. If our neighbors would only make speeches without accompanying them by such acts, the position would be less dangerous (1977:325).

Eban emphasized particularly the heavy concentration of Egyptian troops which were now deployed in the desert.

The prime minister and the chief of staff considered two alternatives: to mobilize a large number of reserves immediately and begin planning for preemptive military action, or to refrain from large-scale mobilization and continue with previous plans for a limited deployment of forces along the border for localized defense. A strategy of localized defense was less consistent with the changing evaluation of Egyptian intent. Large numbers of troops were now concentrated in Sinai, and a blockade of the Straits of Tiran was considered possible though not probable.[14] Adequate as a response if Egyptian purposes were deterrent, activation of further reserves was inadequate if Egyptian intentions were offensive. By 19 May, Eshkol and Rabin no longer accepted the argument that Egyptian objectives were "diversionary" or "demonstrative" (H_3 to H_4). Responding to an estimate of a higher probability of attack[15] and in close consultation with the General Staff, the prime minister chose to mobilize the reserves on a large scale and to begin the planning of a preemptive strike into Sinai (Eshkol, 1967b).

14. Eban recalls that, as soon as President Nasser requested the withdrawal of UNEF, Israel's decisionmakers considered a blockade possible (Eban, 1977:326). Rabin recalls that he told the prime minister as early as 18 May that Egypt was "liable" to close the Straits within two or three days (Rabin, 1979:70-71).

15. In a postwar interview, Rabin referred to the increase in his estimate of the probability of attack: "Although I thought at that stage [15-16 May] that the purpose of the concentration was not war as yet, I took into account the possibility that we can plunge into war as a result of the concentration. When UNEF evacuated its positions, it seemed to me that war was unavoidable" (1967a). The categorical language is partly explained by the post-hoc character of the evidence.

The Rationality of the Process

The prime minister and his military advisers shifted from one form of constrained rationality to another to make the choice to mobilize on a large scale (Table 5.3). When available programs were no longer adequate, Eshkol and his senior military officers combined cognitive and analytic procedures to process choice. The quality of decisional activity was very uneven; at best, the prime minister and those he consulted approximated analytic performance in only some of the principal tasks and, even then, only partially.

TABLE 5.3

19 MAY: A COGNITIVE-ANALYTIC PATH TO CHOICE
(Path 7)

STIMULUS:	President Nasser requests the withdrawal of UNEF on 16 May; Egyptian planes overfly Dimona on 17 May; Egyptian troops are recalled from Yemen on 19 May.
SEARCH:	Limited; identification of only those options consistent with strategic assumptions.
ESTIMATION AND REVISION:	Analytic revision of unconditional estimates of the likelihood of an Egyptian attack with heavy reliance on validated capability indicators; cognitive differentiation to exclude conditional estimates of the probability of attack.
EVALUATION:	Analytic; acknowledgement of value complexity within the constraints established by problem definition.
CHOICE:	Less costly option for defense.

Military and civilian decisionmakers did extend their search for options beyond an ordered series to identify a second alternative and structure a dichotomous decision problem: further incremental mobilization of forces or a large-scale call-up of reserve units. Both these options could be deduced from accepted strategic doctrine which recommended mobilization as the immediate response to an unacceptable violation of the status quo. Strategic concepts did not discriminate, however, between these two alternatives; the logic of the argument was flawed by incomplete analysis.

Search activity did not continue but stopped when the two options consistent with prevailing strategic assumptions had been identified. There is no evidence that the prime minister or his military advisers deliberately sought to uncover additional alternatives. Neither Eshkol nor Rabin appear to have considered making any further response to Egypt's military and diplomatic activity, nor did they entertain the option of immediate attack as soon as military preparedness would permit. An analytic investigation of relevant courses of action would have identified a wider range of alternatives. Both civilian and military policymakers appear to have drawn on prevailing strategic concepts to diagnose and structure the problem for decision. Since the two alternatives were the outputs of

constrained search, evaluation and choice between these options were circumscribed within the boundaries established by strategic concepts. At the very best, leaders could choose efficiently only between the two options identified by cognitive processes.

Strategic assumptions were much less pervasive, however, in the processing of incoming information and in the revision of estimates of the likelihood of an Egyptian attack. When Israel's leaders were confronted with information which challenged the prevailing hypothesis of Military Intelligence that President Nasser would be unable to fight a major war before 1970, there is no evidence that Eshkol, Rabin, or indeed members of the General Staff and intelligence attempted to discount, deny, or avoid to manage the inconsistency. On the contrary, when forces were recalled secretly and unexpectedly from Yemen, policymakers revised their hypothesis (H_1 to H_2) and updated their estimate of the probability of attack. Similarly, military officers quickly revised their initial hypothesis that President Nasser was attempting to deter (H_3 to H_4) as the pace of troop deployment into the Sinai increased. This response to discrepant data approximates analytic procedures of estimation and revision.

No one in high office expected either the redeployment of troops or a request to withdraw United Nations forces. Foreign Minister Eban, in a press conference on 30 May. subsequently expressed the strong sense of challenge to prevailing assumptions:

> When there occurs a disturbed situation, it is natural for people to ask themselves in a self-critical spirit why they should have been so surprised. There are many factors here which could have been and were taken into account, but *I don't think it is reasonable to think that anybody should have believed or need have expected* that a request for such a fundamental change in the structure of the area would be met with such an uncritical response, without the broad and deliberate consultation that should have taken place. Of all the things which were unexpected, and that *nobody of rational mind could have expected*, I would say this was the thing least to be anticipated. Of course, at any time the Egyptian Government could have requested and secured the withdrawal of those forces, but to think that it could secure their withdrawal overnight, without any parallel attempt to solve the problems which the presence of the forces secured, this was such an irrational thing that everybody in the world could be forgiven for not having taken it into account (1967, emphasis added).

Eban argued that an irrational act by an adversary, compounded by an irrational response by an international agency, challenged a rational exclusion of such contingencies from consideration. Nevertheless, in acknowledging his surprise, he acknowledged miscalculation "in a self-critical spirit" and moved quickly to revise what had only a few days earlier seemed a reasonable hypothesis.[16] Responding to an influx of discrepant

16. Even though Eban made his statement ten days after the choice to mobilize, he offered this explanation when the perception of threat and urgency were even higher. Acknowledgment of misperception under these circumstances is not usual.

information within a very short period of time, members of the cabinet, who participated actively in the discussion, and military officers showed considerable flexibility and a capacity to revise standing estimates. Perhaps because the evidence was so strongly discrepant, information-processing approximated analytic rather than cognitive procedures more closely.

Although the prime minister, the foreign minister, and senior military advisers approximated analytic revision of the estimated likelihood of attack in response to changes in Egypt's capabilities and intention, they were considerably less careful in estimating the probability of an Egyptian attack as a consequence of their own behavior. In their evaluation of the consequences of a large-scale call-up, for example, Eshkol and Rabin focused principally on the cost of defense should deterrence fail and paid little attention to the likely impact of a large mobilization on deterrence.[17] After 17 May, they increasingly considered the probability of an Egyptian attack independent of any deployment of forces by Israel. Had they considered the likely impact of mobilization on deterrence, their conditional estimate of the probability of attack might have been somewhat lower. By considering the likelihood of an Egyptian attack separately from their policy options, they assumed independent rather than interdependent decision-making. Egyptian decisionmakers, by implication, were not sensitive to changes in Israel's military capability.

The General Staff in particular paid little attention to the likely impact of mobilization on escalation.[18] In ignoring escalation as an outcome of a call-up of reserves, they avoided a possible conflict among the consequences of a large mobilization. Unlike Egypt, which deployed a large standing army, Israel could not attack on the ground without mobilizing a large number of reserve forces. The paradox, therefore, was unavoidable: as Israel increased its capacity to defend against a possible Egyptian attack, it simultaneously acquired a capacity to strike. Indeed, strategic doctrine considers mobilization for preemption a defensive response to an impending attack. The international security dilemma occurs in its most acute form when an increase in defense simultaneously and in-

17. In writing about these decisions after the fact, some decisionmakers did place considerable emphasis on deterrence. Allon, for example, explains: "Of great importance was the swift and practically complete mobilization of the Defence Forces of Israel, for the dual purpose of discouraging the enemy attack and of repulsing it, should he move forward" (1970:80). Allon was out of the country, however, when this decision was made, and his evidence must therefore be treated with great circumspection.

18. Rabin and Eshkol did consider escalation as a consequence of mobilization, but only with respect to Syria. On 18 May, for example, Rabin reported to the prime minister that the entire Syrian army was on an emergency footing, but Eshkol agreed to the mobilization of only one battalion in Galilee since "any mobilization exceeding our vital needs was likely to lead to further escalation, which we were anxious to prevent" (cited by Rabin, 1979:70). In explaining the purposes of the large mobilization of reserves directed against Egypt to Ben Gurion three days later, Rabin referred only to the requirements of defense: "I recommended mobilization to make sure we were ready" (1979:76).

distinguishably increases capacity for offense. Neither military officials nor civilian decisionmakers confronted this dilemma squarely when considering the likely consequences of different levels of mobilization.

It is possible that the prime minister, in consultation with his foreign minister, had considered and then ruled out the possibility of Egyptian escalation in response to Israel's action. If escalation were excluded as irrelevant after careful consideration, then its omission would not distort the process of choosing between the two military options. The evidence does not support this interpretation. On the contrary, the prime minister and his advisers considered escalation through miscalculation a relevant possibility, but compartmentalized the problem to manage defense through mobilization and escalation through the diplomatic process.

The same day that Israel chose to mobilize on a large scale, Prime Minister Eshkol cabled President de Gaulle of France:

> Israel on her part will not initiate hostile acts, but she is firmly resolved to defend her territory and her international rights. Our decision is that if Egypt will not attack us, we will not take action against Egyptian forces at Sharm el-Sheikh—until or unless they close the Straits of Tiran to free navigation by Israel (cited by Eban, 1977:327).

In discussions with the Soviet ambassador and in a series of written messages to his counterparts in London and Paris, Eban stated explicitly that Israel had no intention of attacking should Egypt refrain from further provocation (Eban, 1977:325,327). In these indirect signals to Egypt's president, Israel's decisionmakers indicated their awareness of possible escalation through misinterpretation.

The prime minister appeared to operate, then, with some inconsistency in his assumptions about Egyptian decision-making and behavior. When he and his military advisers ignored escalation and deterrence as consequences of mobilization, they assumed an independent decision process and unconditional Egyptian action. They estimated likely Egyptian intent independent of any consideration of the consequences of alternative policies available to Israel. Simultaneously, when the prime minister sent messages indirectly to President Nasser, he acted as though Egyptian decision-making were interdependent and Egypt's action conditional on its interpretation of Israel's intent. In attempting to reduce the likelihood of escalation and to reinforce deterrence, Eshkol and Eban assumed a rational adversary who would appreciate Israel's decisional calculus and revise its estimates accordingly. It is difficult to defend the logic of simultaneous assumptions of independent and interdependent decision-making. By separating consideration of deterrence and escalation from evaluation of defense, the prime minister avoided these complexities and simplified the decisional problem.

Even though the prime minister and those whom he consulted did not

approximate analytic procedures in their consideration of option and consequence, they did not follow prototypical cognitive processes of evaluation to structure a single-value decisional problem. The evidence suggests something less than a careful calculation of the cost and benefit of the consequences of the two options, but Eshkol and his senior military advisers did consider more than one value (Table 5.4). While focusing principally on military security, military officers in particular paid attention to the economic cost of large-scale mobilization. General Weizman, the chief of operations, recalls the argument that, if Israel were forced to keep large numbers of reservists under arms for any considerable length of time, its economy would be severely damaged (1976:213).[19]

TABLE 5.4

PRINCIPAL ESTIMATES OF COST, BENEFIT, AND LIKELIHOOD OF CONSEQUENCES OF OPTIONS, 19 MAY

Mobilize on a Large Scale:	Probability of Egyptian attack low but growing
	Economic cost considerable
	Benefit to defense considerable
Further Partial Mobilization:	Probability of Egyptian attack low but growing
	Economic cost negligible
	Cost to defense considerable should deterrence fail*

* Eshkol paid greatest attention to this dimension of value.

In evaluating the cost and benefit to military security, however, the prime minister, working closely with the chief of staff, concentrated overwhelmingly on defense. This heavy emphasis on defense flowed logically from a failure to specify a wider range of outcomes of partial or large-scale mobilization. Omission of deterrence and escalation could affect the final outcome of the decisional process very differently. Had the prime minister incorporated the obvious benefit to deterrence of a substantial increase in Israel's military preparedness, large-scale mobilization would have become an even more attractive option. Had he considered escalation as a consequence of large-scale mobilization, it is possible that the net benefit of large-scale activation of reserve units would have been reduced. Choice would not be sensitive to the omission of deterrence, but the failure to estimate the likelihood and cost of escalation could seriously distort the final decision.

19. Dayan (1976:251) makes a similar argument. He subsequently wrote: "When Egyptian forces began moving into Sinai in mid-May, and four days later mobilization was begun of Israeli army reservists, the immediate effect was a partial paralysis of the Israeli economy." Israel's decisionmakers have frequently referred to the heavy cost of a prolonged mobilization of a large number of reserves. During the early stages of the development of I.D.F. strategy, Chief of Staff Yadin argued that the militia system was made necessary by the prohibitive economic cost of maintaining large numbers of men under arms. See Chapter 4.

The cognitive distortions which occurred in the process of evaluation were not precisely the kind anticipated by psychological explanations of choice. Eshkol and his military advisers were able to handle the trade-off between values. Although they considered cost and benefit in qualitative rather than in quantitative terms, they did acknowledge value complexity in their examination of the two options. In so doing, they loosely approximated analytic procedures of evaluation. They were considerably less thorough in their analysis of complexity within rather than between dimensions of value. Although they recognized the economic cost of improving defense through large-scale mobilization, their evaluation of the cost as well as the benefit to military security was less than complete.

Since neither Eshkol nor his civilian or military advisers have provided direct evidence of the decision rule used to make the choice of large-scale mobilization, the procedure can only be inferred by elimination rather than established with precision. Because the prime minister and members of the General Staff considered more than one value and acknowledged the conflict between them, they could not make their choice by simplifying and avoiding value trade-offs. Single-value calculation also is eliminated as a possible decision strategy. Eshkol could have followed a lexicographic decision rule to order his values and then used each value in succession to discriminate between alternatives. In this case, however, military security alone would have discriminated sharply between the two options, and there would have been no necessity to consider any additional values. The use of a lexicographic strategy would be inconsistent with the evidence that military officers especially did emphasize the economic cost of mobilization. A weak approximation to analytic procedures, within the framework established by constrained search and estimation of limited consequences, provides an explanation more consistent with the available evidence. Equipped with qualitative estimates of probability and value, Eshkol and his senior military advisers attempted to choose intuitively the most efficient option. Chapter 9 evaluates the rationality of the choice to mobilize.

To make the choice, the prime minister and those whom he consulted closely shifted from a combination of cognitive and cybernetic procedures (Path 2) to one of cognitive and analytic processes (Path 7). Neither military planners nor civilian decisionmakers had anticipated a request to withdraw the United Nations force and had prepared no contingency plans.[20] No programs could be available to manage what had not been considered. Leaders quickly acknowledged their misperception and shifted

20. The one exception was General Dayan, a former chief of staff and not yet a member of this cabinet. On 16 May, on a visit to a Tzahal (I.D.F.) base with other former chiefs of staff, Dayan suggested that "As a first step, he [Nasser] is quite likely to expel the UN force and his next step may be an attempt to blockade the sea lanes to Eilat" (Lau-Lavie, 1968:201).

to a process of choice which did include an analytic component. Although rationality was constrained in both processes, there are important differences between the procedures of 16 and 19 May. That the prime minister and his advisers were able even partially to approximate analytic performance in making the second choice to mobilize is unexpected. The limited improvement that did occur may be explained primarily by prevailing perceptions of threat and time and, secondarily, by the quality of available strategic logic. The impact of strategic argument, however, was uneven: strengths and weaknesses in the logic of the argument were reflected in the process of choice.

Although Eshkol, Eban, and Rabin were surprised by the rapid withdrawal of UNEF,[21] their perception of threat and time apparently did not increase significantly (McCormick, 1975:52, 33). Despite some increase in the estimated probability of attack, the Foreign Minister still perceived time for decision; he considered that the problem might be resolved through international diplomacy (Eban, 1977:326). Surprise which is unaccompanied by high threat and short decision-time may stimulate analytic processing by disrupting inertia and routine procedures. Once those who advised the prime minister acknowledged misperception, there was additional incentive and opportunity for estimation and evaluation. Because civilian and military advisers were surprised but not simultaneously threatened and pressed for time, it was easier to shift toward even a partial approximation of analytic procedures.

The logic of strategic argument made this transition easier in one critical area, but also contributed significantly to the principal distortion in the processing of choice. Strategic concepts had identified a series of indicators for special attention, and some change in these indicators did occur: a concentration of troops along Israel's southern border and an overflight and reconnaissance of Israel's nuclear installations at Dimona. Eshkol's principal advisers, the foreign minister and the chief of staff, did begin the first critical revision of the estimated probability of an Egyptian attack in response to this new information. Prime Minister Eshkol considered the concentration of forces and particularly the transfer of troops from Yemen the most diagnostic indicator of the likelihood of attack; indeed, he subsequently explained that it had a decisive impact on his choice to mobilize large numbers of reserve forces (1967c).

Strategic concepts were not fully complete, however, in their listing of indicators. Israel's deterrent strategy had not focused directly on the withdrawal of the buffer force and, when it occurred, members of the

21. This was the peak of surprise in the decisional process of 1967. The withdrawal of UNEF led decisionmakers to consider the possibility of a blockade of the Straits of Tiran. Although its probability was considered low on 19 May, President Nasser's closure of the Straits three days later challenged decisionmakers' calculations rather than their perceptions.

cabinet and of the General Staff could not draw on strategic doctrine to assess its implications for deterrence. To assess the relevance of each indicator to the cumulative estimate of the probability of an Egyptian attack, moreover, the prime minister and his military advisers had to make independent judgments about the relative importance of changes in capabilities in comparison to indicators of intent; strategic concepts were an incomplete guide to inference. Although strategic doctrine provided only a partial guide to the use of indicators, it was useful in provoking the initial revision of past judgments. Obstacles to initial revision are frequently among the most difficult to overcome.

The flaws in strategic logic had their greatest impact on the process of evaluation. Israel's strategic concepts emphasized the narrow margin of security and the consequent importance of reducing loss. They paid little attention to the problem of escalation through miscalculation and gave overwhelming priority to defense. The heavy emphasis on defense by Eshkol and Rabin is consistent with the risk-aversity of strategic arguments. Following the direction of the argument, the prime minister and his chief of staff gave priority to one dimension of military security above all others and evaluated options by their capacity to reduce damage should deterrence fail. In their examination of alternatives, they paid virtually no attention to the political uses of military force. Strategic arguments, silent about escalation and deterrence as consequences of defense, facilitated this constrained evaluation; the logic of the argument was weak by omission.

The choice to mobilize forces on a large scale was a decision of major consequence for deterrence and defense. A growing pace of troop deployment in the Sinai and the expulsion of buffer forces were the first important indications of the possibility of a major challenge to deterrence; although ambiguous, they were a warning. Even ambiguous warning provides opportunities for a defender. Leaders can strengthen defense, attempt to strengthen deterrence, and try to control escalation, but these are not always fully compatible. When defense and deterrence are strengthened by increasing military preparedness, a challenger may respond in kind to a change in military capabilities. If leaders try to reinforce deterrence by reiterating their commitments, they may simultaneously harden the resolve of a challenger and reduce the political flexibility necessary for de-escalation. A complete and coherent strategic analysis recognizes these complexities and attempts to calibrate response to the likelihood of challenge. The more ambiguous the warning, the greater the opportunity for restraint and flexibility in response.

When the choice to mobilize a large number of reserve forces was made, the majority of Egyptian forces in Sinai had not yet been deployed in strength against Israel's borders, and no other important *casus belli* had

occurred. Israel's leaders were still very uncertain of Egyptian intentions. Yet, the prime minister, acting on the advice of his senior military staff, virtually foreclosed an option of gradual remedial action. Once large numbers of reserve forces are mobilized, a prolonged period of gradual conflict de-escalation becomes difficult; patience is not a characteristic of a citizen army. Evaluation of the two options of partial and large-scale mobilization, at best an approximation to analytic procedures, was constrained severely by flaws in strategic logic.

The prime minister and the foreign minister also used the warning time to try to reinforce deterrence. Neither Eshkol nor Eban took the opportunity to reassess, clarify, or redefine Israel's commitments, but reiterated the gravity of the *casus belli*. Within a few days, President Nasser would challenge deterrence and the worth to Israel of the interests at stake.

chapter **6**

The Decision to Delay

23 May: The Decision to Delay the Use of Military Force to Explore Diplomatic Options

While the large-scale mobilization of reserves was being completed, Israel's decisionmakers turned their attention to reinforcing deterrence. In a series of cables and letters, they informed the principal maritime powers that Israel would resist any blockade of the Straits. After the withdrawal of UNEF, decisionmakers defined deterrence as immediate rather than general and concentrated on making explicit their commitment to retaliate. The foreign minister summarized this effort:

> Our intention to regard the closing of the Straits as a *casus belli* was communicated to the foreign ministers of those states which had supported international navigation in the Straits in 1957 and thereafter. There can be no doubt that these warnings reached Cairo. One thing was now clear. If Nasser imposed a blockade, the explosion would ensue not from "miscalculation," but from an open-eyed and conscious readiness for war (1977:328).

Eshkol and Eban were attempting to accomplish multiple purposes simultaneously. By making their deterrent strategy more precise, they hoped to improve the credibility of their commitment to retaliate. Eban also considered that deterrence could be reinforced by strong support from those maritime states who had guaranteed freedom of navigation in 1957. Finally, decisionmakers were improving the validity of their indicators of Egyptian intent. Decisionmakers generally tend to assume that a signal they send is unambiguous and obvious, and Eshkol and Eban were no exception. If their adversary ignored this clear and precise warning, then uncertainty about Egyptian intent would be reduced significantly.

Israel's cabinet met in its regular Sunday morning session on 21 May to hear reports of the concentration of Egyptian forces as well as the intelligence evaluation of the probability of an Egyptian attack. An attack was not considered likely, and the chief of staff reported that there was no need for further mobilization as the Egyptian build-up was still defensive (H_5).[1]

1. General Matityahu Peled, later to become one of the strongest critics of the government

The prime minister and the foreign minister reported on the diplomatic efforts they had made to deter a blockade.[2] Egyptian intent was still uncertain. The day before, a small Egyptian naval task force of one cruiser, four torpedo boats, and two submarines passed through the Canal on their way to the Straits of Tiran and a battalion of commandos was dropped over Sharm el-Shaykh. On the other hand, a cargo ship bound for Eilat went through the Straits unchallenged. Eban reported that U Thant had arranged to visit Cairo and would leave the following day. Both decisionmakers considered it possible that international pressure would deter a blockade of the Straits (Eban, 1977:328).[3] Neither the prime minister nor the chief of staff recommended further action, and the cabinet proceeded to give retroactive approval to the large-scale mobilization. Members of the cabinet also approved Eshkol's intention to speak to the Knesset the following day. Israel's decisionmakers waited to see if deterrence had been reinforced.[4]

At the same time, the chief of staff attempted to expand processes of search and evaluation beyond the official circle of decisionmakers. The next day, Rabin met with Ben Gurion, Eshkol's predecessor as prime minister and Israel's elder statesman *par excellence*. Ben Gurion accused the chief of staff of escalating the conflict with Egypt when the army was insufficiently prepared and Israel was without an ally.[5] Implicitly, the former prime minister argued from premises of escalation through miscalculation. President Nasser was likely to interpret the large mobilization as intent to attack and escalate in return. Only if Israel intended to attack and had the capability and support to do so should large

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and a "revisionist" in his interpretation of the events in these critical weeks in May and June, recalled that until 22 May the General Staff considered Egypt's intent diversionary (H_3). They reasoned that, since there was no concentration of the I.D.F. forces along the Syrian border, President Nasser would not miscalculate. Second, there had been previous concentrations of troops in Sinai in analogous situations, and they had subsequently dispersed. Third, although the speed and size of the Egyptian build-up were somewhat unusual, Egypt currently had moved only 80,000 troops into Sinai and "it is clear that in 1967, 80,000 Egyptians could not endanger the safety of Israel" (H_5; Peled, 1973).

2. In addition to the letter to President Johnson and the cable to de Gaulle, Israel's ambassador to the United States, Abraham Harman, had met several times with Undersecretary of State Eugene Rostow and with Assistant Secretary of State Lucius Battle. See Eban, 1977:325-329 and Quandt, 1977:39-44.

3. Eban is somewhat inconsistent in his retrospective estimate of the likelihood that international pressure could deter a blockade. In his autobiography he also writes: "Any residual prospect of a peaceful issue now depended on a firm and, therefore, improbable show of international resolution" (1977:328).

4. Not all members of the cabinet concurred that the effectiveness of deterrence should be examined. The minister of transport, Moshe Carmel, argued that international commitments were valueless and would not deter Nasser. Moreover, he insisted, the first five minutes of hostilities might be decisive (1972).

5. In a recently published biography of Rabin, the chief of staff recalls the meeting with Ben Gurion: "What's going on?" Ben Gurion demanded. "Are you *trying* to endanger Israel? In 1956 I didn't begin the war until I was sure the skies over Tel Aviv and our other cities were protected by the French air force—and here you are, entering into a war in just any old way" (cited by Slater, 1977). See also Rabin, 1979:73-76.

number of reserves be mobilized. Ben Gurion considered that Israel had neither the capability nor the international support for a strike against Egypt.

Later that same evening, on 22 May, Rabin met with Moshe Dayan, a former chief of staff and at that time a private citizen. With Eshkol's permission, Dayan had toured the southern front the day before. Rabin asked for Dayan's evaluation of Egyptian intent. Dayan subsequently recalled the discussion:

> I told him that I thought Nasser would close the Straits of Tiran that Israel would be obliged to counter with military action. Yitzhak [Rabin] said these were also his views. Rabin also said that a condition for our success was a preemptive air strike. Yitzhak seemed not only tired, which was natural, but also unsure of himself, perplexed, nervously chain smoking, with hardly the air of a man "impatient for battle" My principal impression of the evening was that Rabin was in a state of dejection (1976:253).

Dayan's evidence suggests that Rabin had begun to revise his estimate of Egyptian intent. At the same time, however, the chief of staff displayed unmistakable signs of stress.[6]

Before the prime minister delivered his scheduled address to the Knesset on 22 May, a second letter arrived from President Johnson. The president reassured Eshkol that the Soviet Union understood the American commitment to Israel,[7] but explained why a public statement would be inappropriate. Johnson did speak of the necessity for "suitable measures either through the U.N. or independent of that international organization" (cited by Quandt, 1977:42). Eban noted the retreat from President Kennedy's earlier promise to "adopt" an appropriate course of action if Israel were threatened with aggression. The foreign minister concluded that the difference between the two was not trivial; it was a distinction "between responsible initiative and mere joining" (Eban, 1977:329). Eban was closely monitoring the nuances of American terminology to assess the intentions of Israel's most powerful friend.

Although his audience later that afternoon was the Knesset, Eshkol designed his speech for President Nasser. He focused principally on the danger of escalation and deliberately avoided any public challenge which could further inflame an already tense situation. The prime minister was explicit both about Israel's intentions and capabilities. Israel planned no

6. Eban recalls that General Rabin met with him that day to discuss the likelihood of an Egyptian blockade at Sharm el-Shaykh. He noted that the chief of staff "was very tense, chain-smoking all the time" (1977:333). Rabin's biographer emphasizes his "doubts and anxieties" over the direction of a successful military campaign and notes the chief of staff's unhappiness with the substantial delegation of authority by the prime minister (Slater, 1977).

7. In response to Israel's request on 18 May, Johnson had indeed written the following day to Premier Kosygin, affirming American support for Israel, but suggesting a "joint initiative of the two powers to prevent the dispute between Israel and the U.A.R. and Syria from drifting into war" (cited by Quandt, 1977:40-41).

attack against any Arab country, nor did it intend to challenge their security or international rights. He strongly denied any concentration of forces on the Syrian frontier and called on all responsible parties to promote a reciprocal reduction of forces in the south (1967e). Deliberately unprovocative, the prime minister hoped to allow Egypt the opportunity of a "face-saving retreat" (Eban, 1977:330). Eshkol not only made explicit the limited scope of Israel's intent toward Syria, but also attempted to reinforce a clear commitment to retaliate should deterrence fail. He warned that Israel had both the capability and the will to defend; the army was prepared. The prime minister was attempting to renew a relationship of mutual deterrence; implicitly acknowledging the success of Egypt's deterrent strategy—if that indeed were its objective—he strengthened Israel's weakening deterrent posture by emphasizing the capability to defend.

President Nasser's response was not long in coming. Anwar el-Sadat recalls the meeting of the Supreme Executive Committee in Cairo which made the decision:

> Nasser said: "Now with our concentrations in Sinai, the chances of war are fifty-fifty. But if we close the Strait, war will be a one hundred per cent certainty. " We all knew that our armaments were adequate. When Nasser asked us our opinion, we were all agreed that the Strait should be closed (1977:172).[8]

On 22 May, speaking to the Air Force Command at the base of Bir Gafgafa in the Sinai, he announced the closure of the Straits of Tiran to all ships of Israel registry and to all others with "strategic materials" destined for Eilat (1967a). Reports of the speech reached General Staff Headquarters between 0200 and 0400 on 23 May.[9] Rabin telephoned the prime minister at 0430, and Eban was informed at 0500 hours. Both immediately summoned their advisers for consultation and then proceeded to Tel Aviv for a meeting with the General Staff and a previously scheduled meeting of the Ministerial Committee of Defense.[10]

8. Only the prime minister, Sidqi Sulayman, opposed the decision. Sadat reports that the prime minister "pleaded with Nasser to show more patience, to take into account our economic situation and the ambitious development projects that were now mostly frozen, particularly after U.S. aid had been cut off and so on. Nasser paid no attention to Sulayman's objections. He was eager to close the Strait [to] maintain his great prestige within the Arab world" (1977:172). Participating in the meeting were Field Marshall Amer, Zakaria Mohieddin, Hussein el-Shafei, Ali Sabri, Sidqi Sulayman, and Anwar el-Sadat, as well as President Nasser. If Sadat's evidence is reliable, Egyptian decisionmakers moved from uncertainty to certainty in considering the consequences of their action. If they were certain of retaliation by Israel yet chose the blockade, then deterrence did not fail through underestimation of the defender's resolve by the challenger. Calculation of capability rather than credibility was the critical component in deterrence failure.

9. General Gavish, the commander of the southern front, was notified at 0400 hours on 23 May, two hours before Radio Cairo broadcast the news of the blockade (1970).

10. The Ministerial Committee of Defense included only ten of the eighteen cabinet ministers. It was designed as a smaller body to consider major issues of defense and security, and its deliberations were secret. In May, 1967, the committee included Allon, the minister of

Decisionmakers now began a lengthy debate about the scope of the challenge and the timing and appropriateness of their response. Central to the discussion was their definition of the problem for decision. At General Staff Headquarters some of the assembled military leaders argued that the credibility of Israel's deterrent capability was the issue (Rabin, 1979:76). They also focused on the cost of military action and spoke of the casualties of a large-scale strike. At this early meeting, military decisionmakers did not urge immediate military action but used the opportunity for a preliminary exchange of views.

The formal meeting of the Ministerial Committee of Defense began at 0930 hours with the added participation of some of Eshkol's and Eban's principal advisers, the three senior military officers—Rabin, Weizman, and Yariv—and Golda Meir, then secretary-general of Mapai, the major party in the governing coalition. After an hour and a half, coalition and opposition leaders joined the discussion, and informal consultations continued into the early afternoon. The prime minister introduced the problem for decision with deliberate understatement: "We have news on the political front. It requires consultation and, probably, action as well" (cited by Eban, 1977:332).

The chief of staff began by assessing Egyptian capability. Egypt's deployment was not yet offensive.[11] Although activity had quickened at airfields, technical preparedness was deficient, and the crack Fourth Armored Division was still positioned on the west bank of the Canal. The Jordanian and Syrian borders were quiescent. More ominous were reports of frenzied public pressure in Arab capitals for war with Israel. In revising their estimates of the likelihood of attack, military decisionmakers now gave less weight to capability than to the blockade and the public statements of purpose.

Rabin then outlined the available military options. He eliminated immediately the option of a strike at Sharm el-Shaykh alone: "That would be to start the war at the worst and most difficult place" (cited by Eban, 1973c). A quick rejection of this option is consistent with prevailing strategic concepts which emphasize surprise as strategy and tactic; to "exploit the line of least expectation" an adversary must not be permitted to determine either the field or the moment of battle. The chief of staff outlined two viable military alternatives: a general attack or a preemptive

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labor; Aranne, the minister of education; Barzilai, the minister of health; Eban, the foreign minister; Eshkol, the prime minister; Galili, minister without portfolio; Kol, the minister of tourism; Sapir, the minister of finance; H. M. Shapira, the minister of the interior; and Warhaftig, the minister of religious affairs. Members were chosen both by portfolio and by party membership. When the wall-to-wall coalition was formed on 1 June, the three new ministers Dayan, the new minister of defense, Begin and Joseph Saphir, ministers without portfolio as well as Sasson, the minister of police, and Y. S. Shapira, the minister of justice, joined the committee.

11. Eban describes the military evaluation that morning as "restrained" (1977:332).

air strike against the Egyptian air force and the occupation of Gaza as a "bargaining chip."

The chief of staff could not supply precise estimates of the cost of either option, but he emphasized the differences between 1956 and the present balances of capabilities. Then Israel had the support of two major powers against a single adversary while now Israel was without an ally against a possible coalition of Arab adversaries. Any analogy to 1956 was inappropriate. Although Rabin was confident of the ultimate outcome, he warned that there would be "no walkover"; the cost would be heavy (cited by Eban, 1977:333). Although he did not urge immediate action, the chief of staff explained that the sooner Israel acted, the better. In response to a question by Eban, however, he responded that a delay of some forty-eight hours would entail little military cost.[12] Additional time would be used to complete military preparations (Rabin, 1979:78).

While Rabin concentrated on the military consequences of any choice Israel might make, Eban focused attention on the international repercussions. The foreign minister was equivocal, however, in his definition of the problem. The decisive issues were the challenge to a vital national interest and, simultaneously, to Israel's deterrent capability. This diagnosis of the problem permitted Eban to blur the value trade-offs in his formulation of the options. After quickly eliminating acquiesence to the blockade as a viable alternative—"There was no possibility for us to adopt a doctrine of peace at any price"—the foreign minister acknowledged that the remaining options were few (1977:333-334). He defined them as resistance alone or resistance with the support of others. Such a formulation masked the complexity of the problem: By suggesting that military resistance could take place under better or worse international conditions, it ignored the possible costs of delay. It also appeared to eliminate non-military "resistance" to the blockade. Yet Eban was not fully consistent in ruling out a solution to at least one of the issues—the blockade—through international action.

As the acknowledged expert on past international commitments and present international realities, Eban argued persuasively that Israel had to explore the intentions of the two world powers. He insisted that it was no more appropriate to ignore possible Soviet reaction than to dismiss Egyptian military preparations. Whatever its original intention, the Soviet Union now stood in strong support of President Nasser. Moreover, it had warned repeatedly of "the heavy price" Israel would pay if it acted. Admitting uncertainty about Soviet intentions—"who could be sure?"

12. From this reply, Eban drew the inference that no proposal for military action was made (1977:335). The evidence does not support this interpretation. Military decisionmakers did propose action in the air and in northern Sinai but, in the evaluation of the alternative, concurred that delay would impose no severe cost. See Rabin, 1979:77-78.

Eban emphasized the need for more information and further exploration. In particular, the likelihood that the United States would "neutralize a Russian menace" had to be assessed (Eban, 1977:334).

Turning his attention to the United States, Eban reported that President Johnson had sent urgent messages to Cairo, Damascus, and Moscow, calling for de-escalation of troop movements and respect for free navigation in the Straits of Tiran. The foreign minister read to his colleagues a cable from Ephraim Evron, then minister in the Israel embassy in Washington, which transmitted a formal request from Undersecretary of State Eugene Rostow. On behalf of the President, Rostow urged Israel to make no decision for forty-eight hours and to consult with the United States in the interim. President Johnson reiterated his earlier warning that he would not be responsible for any action on which he was not consulted (Eban, 1977:334).

In urging acceptance of the American proposal, Eban drew an explicit analogy to 1956: regardless of the military outcome, if Israel did not secure American diplomatic support, "we could well win a war and lose the victory" (Eban, 1977:334). If President Johnson were satisfied that all efforts to achieve a political solution had been exhausted, he was more likely to extend American support in the crucial postwar phase. The United States also was more likely to supply necessary military equipment should Israel attack only after international efforts had failed to reopen the blockaded Straits.

Finally, since most of his colleagues were unfamiliar with the details, Eban reviewed for those present the international commitments to freedom of navigation made by the maritime powers in 1957. Britain, France, and the United States had guaranteed the right of free passage through the Straits for ships of their own registry and had recognized Israel's right to self-defense to assure innocent passage for its ships.[13] In his presentation to

13. The "commitments" to which Eban referred were made by maritime powers in February and March 1957, in the aftermath of the Sinai campaign when Israel's withdrawal of forces was negotiated. The American position was stated in an *aide-memoire* from Secretary of State Dulles to Eban on 11 February 1957: "With respect to the Gulf of Aqaba and access thereto the United States believes that the Gulf comprehends international waters and that no nation has the right to prevent free and innocent passage in the Gulf and through the Straits giving access thereto. . In the absence of some overriding decision to the contrary, as by the International Court of Justice, the United States on behalf of vessels of United States registry, is prepared to exercise the right of free and innocent passage and to join with others to secure general recognition of this right" (Dulles, 1957). In the debate of the General Assembly that followed, Foreign Minister Meir made a formal statement of Israel's interpretation of its rights and concluded by referring to a public statement by President Eisenhower on 20 February in which he stated that "We [the United States] should not assume that if Israel withdraws [from the Sinai], Egypt will prevent Israeli shipping from using the Suez Canal or the Gulf of Aqaba" (cited by Meir, 1957). Ambassador Lodge, the United States representative to the United Nations, was quick to qualify this statement in his address to the Assembly: "The United States also takes note of the declarations made in the statement of the representative of Israel. We do not consider that these declarations make Israel's withdrawal 'conditional.' For the most part the declarations constitute hopes and expectations

the cabinet, Eban placed much greater emphasis on the commitments of maritime powers than on their recognition of Israel's right to action and suggested that intensive political effort might compel the fulfillment of these pledges by Britain, France, and the United States. He argued that the Western powers should be reminded that not only Israel's capacity to deter but also the credibility of their commitments were at issue. Israel must not miss the opportunity to put these promises to the test (Eban, 1977:335). Eban concluded by arguing that any military option which did not remove Egyptian forces from the Straits of Tiran would be a strategic failure even if it were a tactical success. Gaza or northern Sinai could not offset the strategic importance of an open port to Israel; they were not effective as "bargaining chips."

Other cabinet ministers and leaders of the opposition now joined the debate. Dayan, while not opposing a short delay, estimated as low the probability that international action would be effective in lifting the blockade:

> My own view, which I put to the meeting, was that we should give the U.S. the forty-eight hours she wanted. If she were prepared to use her forces to guarantee freedom of Israeli shipping, I would be very pleased. But I did not think anything would come of it. Therefore, at the end of forty-eight hours, we should launch military action against Egypt with the aim of inflicting heavy losses on her armed forces (1976:254).

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which seem to us not unreasonable in the light of the prior actions of this Assembly" (Lodge, 1957). The statements by Israel and the United States were followed by those of 14 member states in the course of the assembly debate. The statement by Georges Picot, France's ambassador to the United Nations, on 1 March 1957 was more favorable: "The French Government, certainly, intends to exercise its right of free navigation effectively in the Gulf of Aqaba and through the Straits of Tiran. It considers that any obstruction of its freedom of passage would be contrary to international law and would, accordingly, entail a possible resort to the measures authorized by Article 51 of the United Nations Charter." The statement by Britain's ambassador three days later was also supportive: "It is the view of Her Majesty's Government in the United Kingdom that the Straits of Tiran must be regarded as an international waterway, through which the vessels of all nations have a right of passage. Her Majesty's Government will assert this right on behalf of all British shipping and is prepared to join with others to secure general recognition of this right" (*General Assembly Official Records* [GAOR] 1957, 666th and 667th Plenary Meetings, 1277-1304. Also cited in *Israel, Foreign Relations, Basic Documents*, Document 49,272.) In all three cases, the maritime powers were careful to restrict their declarations to protection of their maritime rights. There is nowhere an explicit guarantee of Israel's right to innocent passage and, consequently, no explicit guarantee to protect Israel's shipping through the Straits.

Interpretation of these commitments was to become a matter of considerable controversy between Israel and the United States. When Eban arrived in Washington, American officials at first could not recall and then could not find all the relevant documentation. President Johnson contacted former President Eisenhower, who confirmed that in 1957 the United States had recognized that, if force were used to close the Straits, Israel would be within her rights under Article 51 of the UN Charter to respond with force (Johnson, 1971:291). American officials, however, emphasized that the "commitment" did not extend to using force to open the Straits for Israel's shipping, but only to the explicit recognition of Israel's right to do so. This was not Foreign Minister Eban's interpretation of the Dulles undertaking. Secretary of State Rusk would argue further that any commitment to Israel that did exist would not be activated until Egypt actually resorted to the use of armed force; the blockade was not so considered (Quandt, 1977:51-52).

Dayan argued further that delay might produce undesired diplomatic consequences, since great power pressure on Israel to refrain from military action was likely to increase. In an effort to reduce the consequences of such pressure, he especially urged that, in the course of diplomatic discussions, no official commitment be made by Israel to a principle of prior consultation.

Eban replied that, even without diplomatic consultation, the United States was exerting considerable pressure for "restraint." The presentation of Israel's case and a reminder of commitments made in 1957 would make pressure more rather than less difficult (Eban, 1977:336). Dr. Warhaftig, the minister of religious affairs, suggested that a decision to wait could both improve Israel's security and increase its international support; it was best on both counts. If anti-Nasserite forces could be mobilized, it was worth doing, even if military action were delayed two or three weeks. During that period, the level of Egyptian tension and preparedness would decline while Israel's would increase (cited by Eban, 1977:335-336). Warhaftig insisted that a strategy of waiting was dominant.

Decisionmakers considered that the probability of an Egyptian attack had increased. The prime minister, in summing up the debate in the Ministerial Committee, expressed this consensus by stating that the closure of the Straits was itself an act of war and that every passing hour was fraught with danger. He supported a proposed trip to Washington by Eban,[14] but argued that any request for an American destroyer escort of a ship flying Israel's flag would be valueless, for the issue of Israel's freedom of navigation would not be addressed directly (Dayan, 1976:254). With full understanding that the delay might extend beyond forty-eight hours, the Ministerial Committee voted formally on Eshkol's proposal to postpone action so that the foreign minister could explore the position of the United States.[15] His proposal was approved without dissent.

The Rationality of the Process

In making their choice to delay military action, Israel's leaders shifted

14. When it became clear that a majority supported a short delay to explore American attitudes, decisionmakers turned their attention to the details of how this could best be done. The discussion became acrimonious as disagreements over whom to send where sharpened. Senior officials of the Foreign Ministry supported a visit to Washington only, but Golda Meir suggested a meeting with de Gaulle as well: "After all, it was French equipment that stood between us and disaster" (cited by Eban, 1977:336). Others suggested sending an unofficial emissary, like Meir, who could make demands while avoiding commitments. Eban objected vigorously, Meir refused, and Eshkol favored official rather than unofficial representation. The Ministerial Committee approved only a trip to Washington, and some of its members, as well as coalition and opposition leaders, were disconcerted to discover subsequently that Eban had added Paris and London to his itinerary.

15. The official text of the decision is as follows: "1. The blockade is an act of aggression against Israel. 2. Any decision on action is postponed for 48 hours, during which time the Foreign Minister will explore the position of the United States. 3. The Prime Minister and

the forum as well as the focus of decision. The group rather than the individual became the decisionmaker of record as the Ministerial Committee convened to debate the appropriate response to the blockade. Members' preferences were explored through discussion and aggregated through voting on a formal proposal which required decision. Individuals contributed to the group which made the final decision.

The imposition of the blockade also provoked a shift in emphasis from deterrence and escalation to defense. After the large call-up of reserves four days earlier, the prime minister had concentrated on reinforcing deterrence by warning of the consequences of a blockade. When President Nasser closed the Straits, the challenge became patently obvious. Because deterrence had failed, at least in part, decisionmakers turned to the defense of what had been earlier defined as a vital national interest.

Some of the most important ministers were flawed in their logic, however, as they struggled to diagnose the problem for decision. Eban in particular defined the blockade as the principal problem (1977:326, 334). If this were the case, then search for and evaluation of options which could lift the blockade were priorities and, indeed, the foreign minister spent a great deal of time discussing the possibility that the maritime powers would enforce freedom of navigation. Simultaneously, however, Eban insisted that "if Israel did not break the ring of blockade and encirclement, her deterrent power would be destroyed and her international position brought to ruin" (1977:333). When deterrence became irrelevant as strategy, it became central as a value. The foreign minister, and senior military officers as well, insisted that the principal problem was to preserve a credible deterrent reputation. If this was the problem Israel's decisionmakers confronted, then international maritime action was irrelevant. Israel's capacity to deter could not be restored by the fulfillment of international commitments to freedom of navigation. Only independent military action could reestablish the primary deterrent relationship between Egypt and Israel. International support then becomes support for the exercise of Israel's military option.

An attempt to secure the fulfillment of commitments to freedom of navigation, it can be argued, was a necessary precursor to securing international support. The major powers were unlikely to condone independent action by Israel until and unless the unwillingness of the maritime states to lift the blockade had become apparent. Although at times decisionmakers formulated the issue precisely that way, they were not consistent.[16] Had they been consistent in their emphasis on the value of

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Foreign Minister are empowered to decide, should they see fit, on a journey by the Foreign Minister to Washington to meet President Johnson" (cited by Eban, 1977:337).

16. At one point Eban argued: "The question was not whether we must resist, but whether we must resist alone or with the support and understanding of others" (1977:334). Here he

a deterrent reputation, logically they should not only have expected but hoped that international enforcement would fail. If their problem were the lifting of the blockade, then fulfillment of maritime commitments should have been an object of central concern. In the process of making their choice, senior cabinet members wavered from one formulation of their problem to the other without fully understanding the differences in the policy implications of each. Indeed, with only mild exaggeration, it can be suggested that Eban struggled simultaneously with two problems which he treated as one. Because he did so, he was inconsistent and uncertain about what he expected to achieve.

Within this context of an ambiguously specified decisional problem, members of the cabinet restricted their search for and identification of options to those consistent with prevailing strategic assumptions (Table 6.1). Indeed, Eban acknowledged that, after the closure of the Straits, decisionmakers felt their options were few (1977:335). An option of acquiescence was eliminated out of hand as clearly inconsistent with deterrence. A second alternative, a limited strike against Egyptian forces at Sharm el-Shaykh, also was ruled out with little consideration. It too is inconsistent with a concept of defense which prescribes a response calculated to maximize surprise. Choice began by elimination as decisionmakers used strategic concepts as a filter to narrow the range of relevant alternatives.

TABLE 6.1

23 MAY: A COGNITIVE-ANALYTIC PATH TO CHOICE

(Path 7)

STIMULUS:	President Nasser blockades the Straits of Tiran to Israel's shipping.
SEARCH:	Constrained; decisionmakers acknowledge their options are few; belief system serves as filter to eliminate all but two options, each of which is deduced from different components of strategic doctrine.
ESTIMATION AND REVISION:	Analytic; strategic concepts establish the blockade as a diagnostic indicator; estimate of the probability of attack responds to changes in both capability and intent variables; structured consideration of cause and effect sequences highlighted by strategic concepts; estimates of likelihood of attack, American support, and Soviet intervention responsive to new information.
EVALUATION:	Analytic comparison within constraints; consideration of multiple values; diplomatic cost of preemption considerable and military benefit moderate; diplomatic benefit of delay considerable with little military cost; estimates qualitative and intuitive.
CHOICE:	Analytic; calculation of trade-off obvious and easy.

defines the problem as international support of Israel's military action. In his emphasis on the blockade as the core of the dilemma and his attempt to secure fulfillment of maritime commitments, however, he defines the problem as the defense of a vital national interest.

Two options were given serious consideration. The chief of staff discussed a preemptive strike against the Egyptian air force to be followed by the occupation of Gaza or a larger part of northern Sinai. Either of these variants of a preemptive strike would be supported by the prevailing concept of defense. The second alternative, that of a forty-eight hour delay to consolidate American support, is consistent with that part of strategic doctrine which emphasizes the absence of an ally as an important constraint to military action. Strategic assumptions were pervasive in the process of search as decisionmakers drew heavily on strategic concepts both to eliminate and to identify policy options.

Despite their difficulty in structuring their problem and their constrained search for alternatives, decisionmakers did approximate analytic processes in their revision of the estimated probability of attack. They were helped immeasurably by the strong diagnosticity of the indicators they used. In particular, the closure of the Straits is identified unambiguously by the concept of deterrence as a *casus belli*; strategic concepts provided guidance in the use of indicators. Drawing on these concepts in the days immediately preceding President Nasser's announcement, the prime minister and the foreign minister had deliberately strengthened the validity of this indicator of Egyptian intent.

Responding to information whose significance had already been validated, members of the cabinet and of the General Staff revised their estimates of Egyptian intent. There is no evidence to suggest avoidance or discounting of new evidence to depress revision nor of exclusive reliance on one indicator to produce a quantum jump in the estimated likelihood of attack. Before the closure of the Straits, military officers in particular had relied principally on capability arguments to infer a relatively low probability of attack (H_1 and H_5) and had explained Egyptian military activity as deterrent and diversionary. After the blockade, they no longer referred to hypotheses of bluff to explain Egyptian activity (H_3 to H_4). They also reduced the relevance of the analogy to Operation Rotem and no longer argued that Egyptian forces would disperse quietly in response to a controlled response by Israel (H_7 to H_8). The director of Military Intelligence and the chief of staff revised prevailing assumptions when the data were sufficiently discrepant. Indeed they now rejected any interpretation premised on successful deterrence. A blockade had been a central object of deterrent strategy, and when it occurred, decisionmakers could appreciate the bankruptcy of deterrence as an explanation of their adversary's behavior. With the help of a specified indicator, they recognized the scope of the challenge to deterrence.

The temptation was great to rely on this single, highly diagnostic indicator to update drastically estimates of the likelihood of an Egyptian attack. Indeed, some of the principal participants have written subsequently that, after the closure of the Straits, they no longer thought that war

could be avoided (Eban, 1977:331 and Dayan, 1976:247). Decisionmakers were frequently imprecise and sloppy, however, in their use of the terms "attack" and "war." The first referred exclusively to Egyptian or Arab intent to attack while the second frequently referred to the "inevitability" of retaliation by Israel once deterrence had failed. Decisionmakers tended to refer to unavoidable war when they defined their problem as the restoration of the credibility of deterrence. No evidence suggests that either civilian or military decisionmakers estimated a high probability of an Egyptian attack on 23 May. On the contrary, reconstruction of the decisional process suggests that military officers especially combined multiple indicators which limited the increase in their estimate of attack far short of certainty. Their evaluation was, as Eban noted, restrained. They drew on capability variables as well as intent inferred from the imposition of the blockade, and the revision of their prior estimates did not oscillate dramatically. Both in their processing of information which challenged prevailing assumptions and in their use of multiple indicators, those principally responsible for the estimation of military capability and political intent approximated analytic procedures.

The prime minister and some of his principal advisers were considerably more analytic than they had been four days earlier in their estimation of the consequences of available options. The improved performance was due at least in part to the group context of discussion where members brought to bear their respective areas of expertise. The foreign minister, for example, focused attention on the probability of American support and Soviet intervention as consequences of any decision to preempt. Eban urged the importance of an evaluation of the likelihood of Soviet intervention on behalf of Egypt should Israel choose to preempt. In the absence of adequate information, he was unable to estimate its probability with any precision; further search was necessary before alternatives could be formulated. The foreign minister argued further that Soviet intervention was contingent on American action and insisted on additional information to better estimate the possibility of American deterrence of Soviet intervention (Eban, 1977:335). The likelihood that one great power will deter the other from military intervention is among the factors highlighted by strategic concepts.

The concept of defense also specifies that a choice to preempt should be made only when the political support of a great power capable of supplying Israel with arms and equipment in the postwar period is assured. Eban paid overwhelming attention to the likelihood of American support in his presentation of the consequences of alternative courses of action. The salience of diplomatic support was reinforced by frequent analogies to the aftermath of the Sinai campaign in 1956-1957 where political defeat circumscribed the results of a military victory.

Eban was more thorough in his examination of the consequences of

preemption than of the consequences of delay. Nevertheless, although he devoted little time to the likelihood of an attack, an area generally outside his competence, he did press the chief of staff for an estimate of the military consequences of delay. The foreign minister also provoked discussion of the possibility that concerted international pressure could or would lift the blockade. There was no agreement among those who participated in the deliberations. Eban suggested that the maritime powers "might" fulfill the commitments they had made on the right of innocent passage in the Gulf of Aqaba while Dayan considered the likelihood of effective international pressure on President Nasser to be remote.

The prime minister, the foreign minister, the chief of staff, and some of the other participants in the discussions performed better than is generally expected; they were able to identify the obvious and important consequences of the alternatives they considered. In national security decision-making, as in many other policy arenas, an inability to specify a range of relevant outcomes—structural uncertainty—often is a major impediment to an analytic process of choice. When Israel's leaders met to consider an appropriate response to a challenge to deterrence, they could draw on relevant strategic concepts which highlighted the important consequences for consideration. Strategic arguments were a useful guide to members of the Ministerial Committee of Defense who were working in a structure of uncertainty.

Estimates offered by members of the committee of the cost and benefit of most of these consequences were qualitative and intuitive rather than quantitative and precise. Discussion did range beyond the consideration of a single value, however, to examine international, military, and human factors of cost and benefit. Not surprisingly, Rabin and Eban paid particular attention to military security and international support respectively in their evaluation of the attractiveness of the two options (Table 6.2). The major cost of a choice to preempt was evident—a loss of

TABLE 6.2

PRINCIPAL ESTIMATES OF COST, BENEFIT, AND LIKELIHOOD OF CONSEQUENCES OF OPTIONS, 23 MAY

Attack:	Probability of American support decreases
	Probability of Soviet intervention uncertain but greater without American support
	Cost to international support considerable if Israel does not consult*
	Benefit to military security moderate to low
Wait:	Probability of Arab attack increases after blockade
	Benefit to international support considerable; fulfillment of great power commitments
	Cost to military security moderate or low; a short delay not serious; additional time could be used to improve planning and deployment

* Decisionmakers paid particular attention to this dimension of value.

international support with the attendant risk to arms supplies, deterrence of external intervention, and crucial diplomatic support in the postwar phase—while the principal benefit was to military security. Even then, those with acknowledged expertise on matters of defense were far from unanimous that an immediate attack would improve military security. As Moshe Carmel, the minister of transport, later recalled:

> It was known that BG [the former prime minister] opposed taking military action. Ben Gurion did not believe that we were capable of fighting this war alone. Members of the Cabinet heard from him that as long as we did not have any of the Powers on our side, any action taken by us would be a dangerous adventure. He influenced quite a few Ministers; for them he was after all still an authority on military matters (1972).

It is not surprising that some invoked authority and were persuaded by the evaluation of the former prime minister. Not only would preemptive retaliation reduce the likelihood of international support, but an attack without an ally could be costly and dangerous. Members of the Ministerial Committee who were not expert on military matters also listened to the restrained evaluation of the chief of staff. Those who shared Ben Gurion's estimate of the military danger faced a simple rather than a complex choice: their values of military security and international support did not conflict.

The costs of a delay were less significant: some loss of the power to deter and higher casualties if Israel had to absorb an Egyptian first strike. Even the General Staff estimated, however, that a delay of forty-eight hours would impose no serious military cost, and indeed some officers considered that the additional time might be of some benefit as the deployment of troops and planning for an attack could be completed. The principal benefit was that of concerted international pressure to compel President Nasser to lift the blockade.

Although strategic doctrine specified most of these factors for evaluation, it provided no procedures for their weighting. Those who drew on strategic arguments could deduce both constraints and inducements to preempt, but no decision rule to resolve complexity. The evidence does not suggest that the prime minister, the foreign minister, the chief of staff, those who dominated the discussion, resorted to single-value calculation. Rabin could have argued, for example, that military security took precedence over all other values. In a single-value decision problem, or even with some variant of a lexicographic decision rule, the net benefit to military security would have dictated a choice to preempt. No participant in the meetings recalls any such argument.

Fortunately, the choice was not very difficult or painful. Even though there were differences in emphasis among the participants—Rabin and Eban attached greater weight to military security and diplomatic support respectively—these differences were not large. If the diplomatic cost of immediate military action were considerable and military benefit

moderate, a choice to preempt might produce a net loss. On the other hand, if delay would benefit international support and impose little military cost, as the chief of staff suggested, the net advantage was obvious. Calculation of net worth was easy and obvious, and there was little incentive to simplify or bolster. Although members of the Ministerial Committee of Defense aggregated their preferences formally through a recorded vote, differences among the participants were narrow. It was not difficult for members to choose the option which promised the greater benefit. Once they heard the presentation of the arguments and the examination of the likely consequences of the two options, they needed neither great sense nor great wit to make an analytic choice. Chapter 9 evaluates the rationality of their choice.

Within the constraints established by problem diagnosis and definition, most of the principal participants were proficient in their processing of choice. At least three factors may explain this capacity to approximate analytic performance in three of the five decision-making tasks (Path 7). First, even though leaders were now operating under crisis conditions, stress was not intense for most. The chief of staff did exhibit unmistakable symptoms of acute anxiety, but available evidence suggests that his reaction was more intense than the others. Generally, perceptions of threat and time pressure did increase but remained moderate (McCormick, 1975:52, 33).[17] Moreover, surprise was less intense than it had been four days earlier. Not only had the possibility of a blockade been anticipated since the withdrawal of UNEF, but it was also the object of extensive prior consideration by strategic doctrine. Decisionmakers had less miscalculation to acknowledge. Some anticipation and perceptions of moderate threat and time pressure are considered optimal for performance.

Second, the collective context of decision-making also appears to have facilitated analytic evaluation. As part of a group, members had access both to information and to argumentation that they did not have as individuals. Participants in the discussion not only exchanged information about each other's preferences but also shared "relevant information." The foreign minister, in an impressive presentation, informed members of the cabinet of prior commitments made by maritime states and argued persuasively that these commitments must be tested. Many ministers, unfamiliar with the details of these commitments, now heard these arguments presented by an expert. Undoubtedly, the authoritative presentation of new evidence and argument led ministers to consider outcomes which they otherwise would have ignored.

17. McCormick finds from a content analysis of public documents that threat perception increased but time pressure decreased (1975:33). He notes the low confidence in the validity of his measure of felt urgency. Even Rabin, the most anxious among the participants, suggested during the discussions of 23 May that he anticipated no serious cost to a delay of forty-eight to seventy-two hours. This evidence is used to infer only moderate time pressure.

Members not only heard new argument and evidence but requested amplification and clarification of estimates during the meeting of the Ministerial Committee. In their questioning, moreover, members did not appear to be awed by the experts among them. Although some invoked the authority of former Prime Minister Ben Gurion, others challenged the evaluation of political consequences offered by the minister of foreign affairs and requested further precision from the chief of staff. Even when individual members tried to minimize value conflict in their presentation of options, they were challenged by others: Dayan, for example, pointed out the diplomatic cost as well as the benefits of delay. Debate was exhaustive and exhausting and, at times, discussion became acrimonious in a group that was expanded to include a range of government, party, and opposition opinion in a situation of crisis. This diversity of opinion, which was reflected in the give-and-take of debate, encouraged more careful consideration of the consequences of policy arguments. Individual members had to argue persuasively.

While there is considerable evidence to support the impact of persuasive argumentation and group discussion, there is little support for either an explanation of concurrence-seeking or of coalition-building. At no time did members press for closure of discussion. Nor did they make reference to group solidarity or the importance of consensus. On the contrary, the prime minister invited wide participation from among party and opposition members. Participation by opposition leaders would broaden the range of opinion rather than promote concurrence. Although the choice to delay was made with no dissent, there is little evidence to suggest that it was the product of groupthink.

An explanation of coalition-building, while complementary, is not convincing. The two essential members of any coalition, the prime minister and the foreign minister, did support the option that was chosen. But so did those who should have headed a competing coalition—the chief of staff and military experts among opposition leaders like Dayan. Nor is there any evidence of bargaining by those who led the majority coalition. The preferred option was not modified to accommodate objections raised by participants in the discussion. Rather, its chief proponent, Eban, argued rather than bargained. Coalition-building appears to be redundant in the explanation of this choice.

Third, the content and structure of strategic argument is a necessary but insufficient component in an explanation of the decision to delay. Because both of the options on the table for discussion were consistent with some component of prevailing strategic concepts, an explanation of the choice must go beyond strategic doctrine to include the processes members of the Ministerial Committee used. The strengths and weaknesses of the processes, however, appear to be related to the quality of strategic logic.

The higher-than-usual quality of estimation and evaluation can be explained, at least in part, by the logic of strategic arguments available to the participants. Eban and Rabin, the two experts in the discussion, could draw on concepts to interpret indicators and to identify the consequences of options. The principal obstacle to a fully analytic process of decision was neither structural uncertainty nor simplification, however, but problem diagnosis and definition. Israel's leaders evaluated and chose between options produced by constrained search and imprecise conceptualization. Proficiency within the framework of an ambigiously conceived problem cannot in and of itself compensate wholly for faulty premises.

Most of the principals did not distinguish sharply between deterrence as strategy and deterrence as value and oscillated between the restoration of the credibility of deterrence and the lifting of the blockade as their principal problem. This blurred diagnosis of the problem is consistent with the rather cursory evaluation of the interest at stake to Israel should a blockade be imposed. Unlike the other *casus belli*, strategic arguments had paid less attention to the economic and political consequences of a blockade in comparison with the cost of defeating one should it occur; the argument was incomplete. Israel's leaders had not reassessed this commitment in the decade since free passage through the Straits of Tiran was first established as an object of deterrence. Once President Nasser challenged deterrence, however, those responsible for national security had to consider not only the direct but also the indirect consequences of acquiescence or retaliation. Even though the challenge was partial rather than total, failure to respond to a blockade could have consequences for the protection of other interests.

Neither civilian nor military leaders had ever paid much attention to the contingency of a challenge to deterrence in stages. On the contrary, *casus belli* were formulated as unrelated, discrete, and well-defined challenges. Israel's leaders now confronted a partial challenge to deterrence which was difficult to define and to circumscribe, and their discussions reflected this difficulty At times the prime minister and the foreign minister emphasized the intrinsic issue at stake—the blockade—and at times they stressed the interconnectedness among interests. They moved back and forth from one diagnosis of the problem to another without quite knowing it, yet each diagnosis had quite different policy implications. If their principal purpose was to restore the credibility of deterrence through retaliation, then American support of Israel's right to exercise a military option was of central concern. If their objective was to open the Straits, then an American commitment to freedom of navigation was critical. The two were not the same.

The decision of 23 May, which authorized the foreign minister "to explore the position of the United States," could encompass either purpose, and members of the Ministerial Committee avoided a more

precise formulation of their problem. The concept of deterrence proved elastic as leaders expanded its meaning to encompass two quite different problems. The consequences of this elasticity and imprecision in problem diagnosis would only become fully apparent when the cabinet prepared to make its next major choice.

28 May: The Decision to Delay Military Action to Allow Time for International Maritime Action

After the lengthy meeting ended on 23 May, military and civilian decisionmakers separated to attend to their specific responsibilities. Prime Minister Eshkol returned to Jerusalem to prepare his reply to the Knesset debate later that evening. In his brief statement, he spoke of the growing troop concentrations in Sinai and emphasized Israel's capacity to defend itself against any attack. Without alluding directly to the blockade, the prime minister urged maritime powers to assure freedom of navigation.

Eban met with the prime minister before his speech that evening and with his consent decided to stop in Paris en route to Washington to try to arrange a meeting with General de Gaulle (Eban, 1977:337). The attitude of France, Israel's major arms supplier and a principal maritime state, was of considerable importance to Israel.

Even before Eban's departure early the following morning, decisionmakers had preliminary information on American and Soviet reaction to the blockade. In Washington, President Johnson had issued a statement condemning the blockade as illegal and a danger to the cause of peace (Johnson, 1967:294). Evron, on the basis of a meeting he and Ambassador Harman had held with Undersecretary Rostow in Washington, cabled that the United States had decided to convene the Security Council as a necessary preliminary to any unilateral action. The American objective was to restore the *status quo ante*. Evron also reported that a senior official had assured him that "We could rely on the President" (Foreign Ministry sources, cited by Brecher, 1975:381). In Tel Aviv, the American ambassador had repeated the President's request for a delay of forty-eight hours. Ambassador Barbour also discussed a British-sponsored proposal of a multinational naval force to protect maritime rights should action at the United Nations prove ineffective (Quandt, 1977:43). Prime Minister Eshkol subsequently recalled that as early as "Tuesday, 23 May, we were already told by the U.S. that she will do everything to open the Straits" (1967b). In a tacit signal, on President Johnson's orders, units of the Sixth Fleet began to move toward the eastern Mediterranean.

The same day, the Soviet Union issued its first official statement since the closure of the Straits. The statement made no reference to the blockade but praised those Arab states who had honored their commitments for joint defense with Syria when it was faced with aggression. Moscow concluded

with the warning that any state that attempted to "unleash aggression" in the Middle East would meet the strong opposition of the Soviet Union.[18]

While civilian decisionmakers were monitoring international reaction, military officers met at General Staff Headquarters under the chairmanship of the chief of staff. Rabin did not feel well, left the meeting, and was ordered by his physician to rest for thirty hours. General Weizman, the chief of operations, served as temporary replacement. At the time, Rabin's illness was described as nicotine poisoning, and he was absent for two days. Subsequently, Weizman alleged that the chief of staff had suffered an attack of acute anxiety.[19] There is little doubt that, from 24 to 26 May, the chief of staff experienced considerable stress.

At the same time, in a private capacity, General Dayan met with Southern Command to discuss operational plans. Plans were not yet final since military officers were still considering various options. Later that evening, Dayan met with the commander of the southern front, Gen. Gavish, at his headquarters. Dayan subsequently recalled the discussion:

> Shayke [Gavish] explained the difficulty of breaking into the heavily fortified Egyptian strong points, whereas by capturing the Gaza Strip, we would gain a valuable bargaining card, being able to trade the return of the strip for freedom of shipping through the straits. I said that this plan did not seem feasible to me for both political and military reasons. The Gaza Strip bristled with a variety of problems. Egypt was unlikely to consider the strip an important enough card to make a trade. But the more decisive reason was a military one. The aim of this was armed confrontation with Nasser. The real gravity of his closing the Straits of Tiran lay not simply in the blockade itself, but in his attempt to demonstrate that Israel was incapable of standing up to the Arabs. If we failed to disprove this thesis, our situation would steadily deteriorate. I detected a certain doubt on the part of some of the officers at Southern Command as to whether we had the strength to rout the Egyptian forces. And one asked if we were justified in risking heavy losses for such a campaign, or whether we should not try to avoid such casualties—even if this meant a failure to gain our full purpose (Dayan, 1976:323-324).

Dayan clearly defined the problem as one of deterrence failure. The blockade was symptomatic rather than primary, and any feasible military option must address the primary problem of restoring the credibility of

18. Cited in *The New York Times*, 24 May 1967.

19. Weizman published an *aide-memoire* he had written on 6 November 1967 seven years later when Rabin became a candidate for prime minister. According to the *Jerusalem Post* (23 April 1974), the document alleges that Rabin contacted Weizman at 0800 on 24 May and asked him to come to his home. When he arrived, the chief of staff told him that he had mistakenly involved the country in a big and dangerous war and asked Gen. Weizman if he would agree to replace him as chief of staff. The chief of operations refused and offered his support and encouragement. An hour later, at the request of Mrs. Rabin, he returned and met an army physician who diagnosed acute anxiety. They decided to inform the prime minister and to release the information that the chief of staff was suffering from nicotine poisoning. Rabin, in his autobiography, confirms all essential details of the Weizman document and adds that the meeting with Ben Gurion profoundly shook his confidence and evoked feelings of guilt and depression. See Rabin, 1979:79-83.

Israel's deterrent posture. Even if the problem were the blockade, moreover, the likelihood of reopening the Straits by bargaining with President Nasser was low. Dayan rejected the limited use of force for political purposes; the capture of Gaza would provide little benefit and considerable loss.

Other officers, however, expressed their uncertainty about the consequences of a more extensive military strike. They questioned not only its likely outcome but also its cost and referred explicitly to the trade-off between the restoration of a credible deterrent reputation and the cost in human resources. Long after the commitment to deter had been made, those charged with the responsibility for retaliation when deterrence failed questioned the value of deterrence. Even more so than their civilian counterparts, military decisionmakers recognized considerable uncertainty and value complexity.[20] In their consideration of military alternatives, they wondered out loud—at least for a moment—whether Israel had committed itself to a strategy of rational irrationality and whether such a strategy was rational.

The next morning, Gen. Weizman met with the heads of Operations, Military Intelligence, Southern Command, and the armored corps and ordered the preparation of a plan for military action in the south. The acting chief of staff then lunched with the prime minister and later that afternoon, at 1730 hours, Eshkol came to General Staff Headquarters for a three-hour meeting. The prime minister brought with him the deputy minister of defense, Zvi Dinstein, the director-general of the Ministry of Defense, Moshe Kashti, and his military secretary, Colonel Lior; except for Generals Yaffe and Sharon who remained with their divisions in the south, all senior officers attended the meeting.

After a general review of intelligence information, the commander of the air force presented the plan for preemptive action against the adversary's air force and expressed his confidence in its outcome. Military Intelligence estimated that, after a preemptive strike, Israel's forces would have no more than forty-eight hours until the superpowers would intervene to impose a cease-fire (Weizman, 1976:215-216). Gavish, the commander of the southern front, then presented three possible options for ground action: occupation of Gaza; occupation of part of the Sinai up to el-Arish; or occupation of the northern part of Sinai to the Canal. Although no formal choice was made,[21] Southern Command favored the most extensive plan of

20. Weizman confirms the intense uncertainty among military officers: "There was a great deal of confusion. It stemmed largely from uncertainties about forthcoming steps. . . . There were, indeed, doubts among the political echelon, but it was the top military echelon that nourished them. If the government was groping in the dark, it was the General Staff that strengthened and reinforced its doubts, because it too was perplexed and confused" (1976:210-211).

21. General Bar-Lev, alone among the participants at the meeting, recalls that a major

attack. The prime minister, who was also minister of defense, then asked everyone present for their evaluation of the military options on the southern front. General Weizman ended the meeting by telling Eshkol that mobilization was now virtually complete; by the following day, the army would be ready and prepared to attack. Once forces were mobilized and in position, military leaders began to exert significant pressure on the prime minister and other members of the cabinet to choose preemption. When force became usable, military decisionmakers concentrated increasingly on restoring the credibility of deterrence.

While military officers intensified their contingency planning, Eban began his exploration of the intentions of friendly maritime states. Before dawn on 24 May, he left for Paris with his political secretary, Moshe Raviv. At noon, accompanied by Israel's Ambassador Eytan, the foreign minister was ushered into the office of President de Gaulle. Immediately, the president warned: "Do not make war. At any rate, don't shoot first. It would be catastrophic if Israel were to attack" (cited by Eban, 1977:341).

Eban responded that the crisis had been created by Syrian-based terrorism, Egyptian troop concentrations in Sinai after the withdrawal of United Nations' forces, and the blockade of the Straits of Tiran. The blockade was not only a threat but an act of aggression which must be rescinded. Israel was still exploring whether it would have to fight alone, even though the price in blood would be heavy, or resist in cooperation with maritime powers who would fulfill their commitments. "Israel without honor is not Israel," he argued. "Our nation faces a stern choice" (1977:342). The foreign minister simultaneously emphasized the centrality of the blockade—the disruption of the commercial and communications complex at Eilat and the rupture of the extensive trading relationships with the East—and the obligation to restore Israel's honor or deterrent reputation. He saw little distinction between them.

General de Gaulle remained unconvinced. He insisted that any solution must include the Soviet Union in a four-power agreement. He added that

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strike across the whole of Sinai was chosen that day. He subsequently argued: "The several possibilities were discussed and the accepted summary was: the destruction of the Egyptian army and the occupation of the whole Sinai Peninsula, up to the Suez Canal" (1973a). General Weizman is ambiguous about whether a choice was made that day or not. He recalled that he presented Eshkol with the final plan (1976:215), but stated subsequently that the plan was completed finally only after Dayan became minister of defense (1973; 1976:216). Dayan reported that the operational orders at Southern Command on 24 May, which are quite distinct from final authorization from General Headquarters, indeed included action in Gaza but also an advance by the 7th Brigade deep into Sinai, the capture of el-Arish, and an advance toward the Canal (1976:259). General Sharon maintains that, on 1 June 1967, the "large-scale" plan was still a strike only along the northern axis (1973a). At a meeting of the commanders of the southern front with Eshkol on 25 May, General Sharon voiced his criticism of the limited plan of action; it is difficult to infer, therefore, that a choice to eliminate the limited strike had been made the previous day. Finally, the military historian of Tzahal, with access to official documentary evidence, writes that the first plans were to strike along the northern coast of Sinai (1973:725-726). The process of choosing among options for an attack on the ground would continue until early June.

1967 was no longer 1957 In a thinly veiled reference to Israel's dependence on arms and equipment, the president warned that Israel must not act unilaterally; she was not "sufficiently established to solve all her problems herself" (cited by Eban, 1977:343). Eban replied that at times inaction may be more dangerous than action.

The foreign minister drew immediate and drastic conclusions from his meeting with the French president. Three points were salient: "the emphatic advice to abstain from active resistance; the diminution, almost to a vanishing point, of the 1957 maritime commitment; and the constant accent on the 'Four Power' solution. There was not the slightest room for any conclusion except that France was disengaging herself from any responsibility for helping us if we chose early resistance" (1977:344). Despite his hope that France would fulfill its international obligations, at least in part, Eban engaged in little wishful thinking.[22] His investigation of French intentions provided cold comfort. If the problem were the blockade, then the withdrawal from the undertakings of 1957 and the substitution of a "Four Power" condominium were not encouraging; and if the problem were the restoration of deterrence, then the stern strictures against military action by Israel's principal arms supplier were discouraging. Even though Eban did not distinguish carefully between the two problems, de Gaulle eliminated a solution to either. Raviv cabled a brief resumé, and Eytan followed with an almost verbatim account. By early the next morning, decisionmakers in Jerusalem had documentary evidence of the change in French attitudes.

Eban's report from London, his next stop, was more encouraging. Britain was both a principal maritime power and a significant supplier of armor to Israel. Prime Minister Wilson informed Eban that the cabinet had met that morning and reached a consensus that the blockade must not be permitted to succeed. Accordingly, Britain would join with others to open the Straits and was consulting with the United States about how best to

22. Two days earlier, on 22 May, spokesmen for the British and French Foreign Ministries had announced that the 1950 Tripartite Declaration was no longer valid. The Tripartite Declaration was issued by Britain, France, and the United States principally to control the arms race in the Middle East. Its concluding paragraph spoke in deliberately vague terms of their commitment to the integrity of all states in the region: "The three Governments take this opportunity of declaring their . unalterable opposition to the use of force or threat of force between any of the states in that area. The three Governments, should they find that any of these states was preparing to violate frontiers or armistice lines, would, consistently with their obligations as members of the United Nations, immediately take action, both within and outside the United Nations, to prevent such violation" (*United States Senate Documents*, Document 7, 131). The Declaration had become largely irrelevant after the Czechoslovakian-Egyptian arms deal in 1955, when one of the principal states in the region was able to go beyond the three powers to purchase military equipment. After the withdrawal of UNEF, however, President Johnson asked his secretary of state to ascertain the French and British interpretation of their responsibilities under the declaration (Johnson 1971:292). A few hours before Nasser declared the blockade, the two governments declared the declaration no longer valid. Although Israel had never regarded the 1950 statement as an effective guarantee, its disavowal at precisely that moment was considered as an indicator of the attitudes of martime powers (Eban, 1977:341).

proceed. Wilson had already sent his minister of state for foreign affairs, George Thomson, to discuss the "nuts and bolts" of a common plan of action (Eban, 1977:346-347 and Wilson, 1971:397).

The thrust of British reaction to the closure of the Straits was substantially different from that of France. Prime Minister Wilson supported international action to lift the blockade, either inside or outside the United Nations and, as Eban observed, made no comment on whether Israel should use force (1977:347).[23] At worst, Britain's attitude was permissive; at best, it was supportive. More significantly, Prime Minister Wilson precluded neither of the two principal alternatives under consideration by Israel's decisionmakers. In a detailed telegram to Jerusalem, however, Eban cautioned that, although Wilson's views increased the probability of international support, their impact would depend on what was agreed upon in Washington (1977:347). The following morning, Eban left for the United States.

While the foreign minister was en route, the evaluation of the probability of an Egyptian attack had changed. On 25 May, Prime Minister Eshkol met first with Rabin, who had resumed his responsibilities, and then heard the daily intelligence report at a 0945 meeting with military commanders. General Yariv now estimated that a serious military threat existed: troop concentrations in the Sinai were dense, Egyptian airfields were on alert, and MIG reconnaissance planes continued to overfly southern Israel. Even more important, the Egyptian Fourth Armored Division had begun to cross into Sinai that morning; this "lit the lights on all the boards of the General Staff in Tel Aviv" (Ben Elissar and Schiff, 1967:89). By the redeployment of its crack armored force, Egypt had significantly increased its capacity for offense. Responding to the change in capabilities, Military Intelligence increased its estimate of the probability of an Egyptian attack (Rabin, 1979:85).

Later that morning, Prime Minister Eshkol toured the southern front and met with its commanders at 1115 at the headquarters of General Tal. These officers had been told the day before that an attack was set for the following morning and only at 1700 hours did they receive word that it had been postponed for an additional twenty-four hours (Dayan, 1976:259). Dissatisfied with the hesitation of civilian decisionmakers and concerned by the increase in Egyptian offensive capabilities, military officers pressed Eshkol to approve a strike against Egyptian forces. They presented the plans of Southern Command for ground action to the prime minister; these

23. Wilson's recollection of the thrust of the cabinet discussion earlier that morning is somewhat different: "We had one of our gravest discussions. . . . We were all agreed to urge the utmost restraint, at a very difficult time, on her [Israel] while doing everything possible by direct diplomatic pressures and at the UN to urge that similar pressures be put on the Arab countries by those in a position to influence them" (1971:396). Wilson does not record, however, that he urged restraint directly on Eban.

still emphasized the occupation of part of the Sinai as a bargaining chip to trade for the reopening of the Straits. General Sharon challenged this strategy of the political use of limited force and listed the cost of its consequences:

> We invited him [Eshkol] two days after the Straits were closed, when the General Staff presented a limited plan to occupy the Gaza Strip as a bargaining device for the Straits. I was the only speaker on this matter, and I told Eshkol that we are making a big mistake, that we must not enter the war in stages, for after each stage, in a big or small war, you are subject to the same international pressures, and if the bargaining does not succeed and we will not get what we demand, you cannot reopen the war. I said that in my opinion we have the full capacity to destroy the Egyptian army and that the aim has to be the destruction of the whole Egyptian army (1973b).

Sharon concluded with the evaluation that the growing strength of Egyptian forces would increase the cost of Israel's military action. Since the Straits could not be reopened and the concentration of forces reversed through diplomatic action, the earlier the attack, the easier the defeat of the Egyptian army. Using an inference of impossibility, General Sharon bolstered support for his preferred option.

Although General Sharon was the only speaker, he expressed the consensus of the assembled military commanders who now agreed on the definition of the larger decisional problem (Gavish, 1970, 1971). Unequivocally, they considered the restoration of Israel's deterrent capability to be the central issue and urged the choice of military action as the only relevant response. Their clear formulation of their problem and their urgent demand for action coincided with the completion of the deployment of the reserve forces and with a significant increase in Egypt's offensive capabilities. Their perception of changes in capabilities affected both their estimate of the likelihood of an Egyptian attack and their evaluation of their own options.

The consensus among military commanders did not appear to be the product of a search for concurrence. General Bar-Lev, soon to be appointed deputy chief of staff, was present at the meeting, and he did not press the prime minister to approve an immediate attack. Although he agreed with his colleagues in their definition of the problem, he considered that an extra few days delay would not be serious (1973b). Despite the increase in stress, minority opinion was still possible.

The changes in Egypt's capabilities and in the estimated likelihood of attack led Eshkol to cable Eban later that day. In his cable, the prime minister informed his foreign minister of the entry of Egyptian armor into Sinai, of the trip of Egyptian Minister of War Badran to Moscow to request additional aid, and of the movement of Iraqi and Syrian forces toward the Jordanian frontier. More important, Eshkol restructured the problem for decision: "You should explain to President Johnson that the danger no

longer lies simply in the closing of the Straits but also in the concentration of troops and in the prospect of an Arab attack on Israel. Can President Johnson advise us what to do in this situation?" (cited by Rabin, 1979:85 and Bar-Zohar, 1970:108-109). Responding to an upward revision in the probability of an attack, Eshkol expanded—rather than narrowed—the parameters of the decisional problem and extended the scope of search beyond the blockade to include an appropriate response to the massed Egyptian troops.

Still later, on the advice of his staff, Eshkol agreed to send an even stronger telegram. Chief of Staff Rabin best describes the decision to extend the evaluation of American intentions even further:

> in order to test where Israel stood the Director-General of the Prime Minister's Office, the late Ya'acov Herzog, in a conversation with me, suggested that we send a telegram to the Foreign Minister, Abba Eban, who was then in Washington, and in it we would say that, according to the information in our hands, there may be the development of an Egyptian offensive initiative against Israel as the events evolve. And Mr. Herzog further suggested to me that we ask Mr. Eban to clarify to what extent the United States is prepared to make good on obligations, given in the past to Israel's leaders for real help in such an event (1972).

While the first cable had emphasized the change in Egypt's capabilities and in the estimated probability of an attack, the second telegram warned directly of the imminence of attack and requested the United States to reinforce deterrence by promising to come to Israel's defense:

> Israel faces a grave danger of general attack by Egypt and Syria. In this situation, implementation of the American commitment is vital—in declaration and action—immediately, repeat, immediately, meaning a declaration by the U.S. government that any attack on Israel is equivalent to an attack on the United States. The concrete expression of this declaration will be specific orders to U. S. forces in the region that they are to combine operations with the IDF against any possible Arab attack on Israel (cited by Rabin, 1979:87).

Considerable controversy has arisen as to whether Israel's intelligence services did forecast an imminent attack or whether political advisers disingenuously decided to test American intentions before rather than after the fact. There is strong evidence that at least one of the intelligence agencies was predicting an Egyptian attack,[24] but the two explanations are

24. In his autobiography, Dayan writes of his conversation on 25 May with Meir Amit, the head of Ha-Mossad, or Special Services: "On the general military situaiton, he[Amit]said that all the neighbouring Arab states were geared for an overall attack on Israel, that Egypt already had some eight hundred tanks in Sinai and was continuing to secure reinforcements. The attack would be launched very soon. We had transmitted this information to Washington, stressing its gravity, and asked whether the United States would now declare her readiness to 'come to the defense of Israel as if it were the United States' " (1976:262). Rabin reports that on the evening of 25 May, Yariv expressed his concern to the prime minister that, if Israel took no action the following day, Egypt might attack (1979:86). Quandt reports that Israel's intelligence experts submitted several specific items as evidence of Egypt's intention to attack imminently. After examining the evidence throughout the night of May 25-26, American intelligence concluded that there was no indication of imminent attack (1977:49, 50).

not mutually exclusive. Certainly, the cable was designed to force the United States to clarify its intentions.

In formulating their request to President Johnson in precisely this way, however, Israel's decisionmakers were transforming the definition of their decisional problem. They had sent Eban to Washington to explore the likelihood of American support should they choose preemptive retaliation to restore the credibility of their deterrence posture. They were now asking the President to commit the United States to the defense of Israel to deter an Arab first strike. The logical consequences of this reformulation are considerable. By requesting a statement that an attack on Israel was tantamount to an attack on the United States, Israel's policymakers were acknowledging implicitly their inability to deter independently. It can be argued that Israel's deterrent capability became inadequate only after it failed to respond to the closure of the Straits, a declared *casus belli*. With its own deterrent capacity destroyed, the logical step was to draw on American resources to reinforce deterrence.

But Israel's deterrent posture was shaken not by inadequate capabilities—in the logic of this argument—but by inadequate resolve to fulfill the commitment to retaliate when the challenge to deterrence became apparent. Indeed, military experts had offered no evidence that Israel's capabilities did not permit retaliation to restore deterrence. The principal obstacle was rather the absence of American political support. Those decisionmakers who emphasized the reestablishment of deterrence as the principal problem logically should have asked only for American support of a retaliatory strike by Israel.[25]

A request to deter Egypt and Syria from attacking, moreover, might expose Israel to a parallel request to refrain from military action. If American support of a preemptive attack were indeed important, then Israel would suffer a further loss of deterrent capacity. The logic led to the substitution of American deterrence for that of Israel. The circle was squared because decisionmakers did not consider whether reestablishment of Israel's deterrent capability through retaliation or deterrence of an Egyptian and Syrian attack took precedence. If the appeal to the United States was only a testing device, moreover, its logic is even less obvious. Rather, its illogic lay precisely in ambiguous problem definition and imprecision in the applied concept of deterrence.[26]

25. Dayan made precisely this argument when Amit told him of the cable to Johnson: "It would be catastrophic if Israel were to be seized by hysterical fear and start banging on the doors of the Big Powers, begging them to come to her rescue and all this when, in fact, as I firmly believed, we were capable of putting the Egyptians to rout. To end up by proposing that *they* [the United States] should settle the matter for us was both naive and foolish. Rather it should be our purpose to convince them that because of Nasser's dangerous acts, we were compelled to strike immediately at Egypt" (1976:263, emphasis in original).

26. Eban displays this confusion in the application of the concept of deterrence and in problem definition when he describes his reaction to the two cables. Eban does note that "the direction and thrust of my mission were changed by a cabled message that reached me from

On his arrival in Washington on 25 May, Eban first received the second telegram and then the first. After reading the reports of an imminent attack, he asked for an earlier meeting with Secretary of State Rusk and informed him, as well as Eugene Rostow and Lucius Battle who were both present, of the latest intelligence. Surprised, Rusk asked for an immediate adjournment to apprise the president of the contents of the cables. Before arranging for another meeting later that evening, he did tell Eban that the Senate Foreign Relations Committee had expressed support for Israel but on the condition that the United States acted in cooperation with others (Johnson, 1971:291-292).

An hour later, Eban returned to the State Department with Ambassadors Rafael and Harman and Minister Evron to meet with senior officials of the State Department.[27] Eban opened the discussion with his statement that freedom of passage in the Straits of Tiran was "a paramount and unconditional national interest" (1977:350). If the statement of the foreign minister was indeed an accurate reflection of his evaluation, rather than a tactical preliminary to difficult bargaining, then the original commitment to deter and retaliation to defend after deterrence failed were both rational.

The working dinner then turned its attention to the discussion of procedures to lift the blockade. State Department officials were optimistic about the prospects. Their plan included a joint declaration by maritime states on the right of free passage, the dispatch of a naval task force to the Straits, and coordination with the Security Council. As Eban later reported to Eshkol, some officials predicted that the president would pledge that the Straits would be opened, even if there were resistance (1977:350). The foreign minister pressed for a timetable of implementation and expressed his skepticism of the effectiveness of any arrangement which included the United Nations (1977:350-351). Later that evening, alarmed by the possibility of limits on Israel's right of innocent passage in the Straits, he sent Ambassador Harman back to the State Department to reemphasize Israel's need for a concrete and precise statement of American intentions. In a midnight meeting with Eugene Rostow and Sisco, Harman warned that Israel would not accept any plan which would open the Straits to all ships except those of Israel (Quandt, 1977:49).

Jerusalem." Correctly concerned that his request for an American commitment would signal weakness rather than military confidence, he continues: "Instead of asking for specific political support and *deterrence in the matter of the blockade*, I would in effect be saying that Israel felt her life to be at Egypt's mercy unless there was an American intervention beyond the limits of the Gulf of Aqaba problem" (1977:348, 349, emphasis added). Logically, Israel could not ask for American help in deterring the blockade. It could ask for political support for retaliation or for American action to lift the blockade. Eban does not distinguish between these two requests, much less the substitution of American deterrence for that of Israel.

27. Present were Undersecretary of State for Political Affairs Eugene Rostow; Foy Kohler, a Sovietologist; Lucius Battle, responsible for the Middle East and South Asia; Joseph Sisco, charged with responsibility for the United Nations; Leonard Meeker, legal counsel; and Townsend Hoopes, representative of the Pentagon.

After the working dinner, Eban and Harman met again with Rusk who, in the interim, had seen the president and consulted the chairman of the Joint Chiefs of Staff, General Earl Wheeler. American military officials did not share Israel's appraisal of an imminent Arab attack. Moreover, the guarantee that Israel was seeking was not within the prerogative of the president; it existed only in the NATO alliance and depended on congressional approval. Nevertheless, Eugene Rostow had summoned Egyptian Ambassador Kemal and warned against any offensive military action. The Soviet Union had also been asked to use its influence with President Nasser (Quandt, 1977:49). Eban reflected privately on the contradiction between American deterrence of military action by Egypt and support of preemptive retaliation by Israel (1977:352). Harman cabled Jerusalem the results of the working dinner and at 0130 New York time on 26 May, Eban sent Eshkol a brief telegram summarizing the results of the three meetings.

Only a half-hour later, at 0800 hours in Israel, the Ministerial Committee of Defense began a meeting which lasted for six hours. The committee was to be in almost continuous session for the next three days. Yariv presented the latest intelligence report, underlining the increase in Egyptian capabilities, especially the redeployment of its crack armored division.[28] The chief of staff reviewed the cumulative evidence of the last ten days and listed the advantages of a preemptive strike.[29] The army was deployed, equipped, and prepared to attack (Rabin, 1979:89). Warhaftig, the minister of religious affairs, was more restrained; he referred to Ben Gurion's reservations about the capacity of the I.D.F to fight alone. Allon, Carmel, and Galili were confident of Israel's capacity to defend, with or without an ally. Allon, participating in the deliberations of the committee for the first time,[30] shared the estimate that an Arab attack was likely. As he later recalled:

28. One analyst notes that the pace of deployment of the Fourth Armored Division indicated a sudden decision to attack. Unlike the first wave of troops which had deployed in orderly fashion, this second transfer across the Canal was disorganized and precipitate with poor infrastructure and supplies (Burdett, 1969:257).

29. Weizman recalled the reduction of uncertainty among members of the General Staff: "It's hard to pinpoint the precise day, but around 26 May there were no further doubts left in the General Staff about the necessity of Israel breaking out of the noose Nasser had placed around its neck. At that point, two things were clear: first, diplomatic activity had no hope whatsoever of resolving the crisis; second, from our viewpoint, the blockade of the Straits was not, in itself, the principal problem. The large concentration of forces in Sinai, even if there were no immediate attack, would require Israel to keep enormous numbers of reservists under arms, undermining the economy. This situation was a dangerous one and of far-reaching consequences to the credibility of Israel's deterrent capacity" (1976:213-214). Weizman's reconstruction of the evaluation of the General Staff is *ex post facto*, and this may account in part for its categorical language. Multiple sources attest, however, to the change in the intelligence estimate of the likelihood of attack and to the change in the General Staff's definition of the decisional problem.

30. Allon had returned from the Soviet Union on 24 May and was immediately briefed by the General Staff. As an experienced military officer and the originator of the concept of "anticipatory counterattack," Allon was active and influential in the ensuing ten days. He was

> Apprehensive about possible Israeli reactions [to the blockade of the Straits], Nasser bolstered his forces in Sinai with further motorized infantry and armour divisions, and alerted his air force and navy. The concentration of Egyptian forces became a menace *per se*. Israel's anxiety increased. She was evidently facing more than an attempt on her freedom of navigation; there was a real danger of an imminent invasion of her territory (1970:78).

Allon urged an immediate preemptive strike and argued that, if Israel attacked before Egyptian forces were fully deployed and organized, losses would be less (1970:80). Carmel and Galili agreed and suggested that the prime minister be empowered to authorize appropriate action if necessary.

Information on the results of Eban's consultations in Washington, however, was still incomplete. The lengthy summaries of his discussions in Paris and London had arrived, but the cabled reports of meetings with Rusk and State Department officials were only preliminary. The information that did exist placed heavy emphasis on the importance of consultations in Washington.

Eshkol summarized the debate by stressing the change in the problem for decision. The blockade of the Straits was no longer the only or the primary focus; rather, the concentration of forces was the greater danger. The prime minister now distinguished among the challenges and ordered them in importance. If the logic of the argument were pursued, decisionmakers would focus their attention principally on the likelihood of American support if Israel attacked. At the suggestion of Minister of Industry and Commerce Ze'ev Sharef, the committee decided to postpone further discussion to await clarification from Washington. Immediately following the meeting, at Allon's insistence, the prime minister sent a third cable to Eban instructing him to emphasize in his meeting with President Johnson not the reopening of the blockaded Straits but the threat imposed by the massed Egyptian troops on Israel's southern border (Allon, 1968 and Eban, 1977:351). These instructions were consistent with the respecification of the decisional problem to emphasize defense.

In Washington, Eban, accompanied by Ambassador Harman and the Embassy's military attache, Yosef Geva, met with Secretary of Defense McNamara, the chairman of the Joint Chiefs of Staff, General Wheeler, CIA Director Richard Helms, and Townsend Hoopes. Pentagon officials disputed both Israel's estimated likelihood of attack and its evaluation of relative capabilities. American intelligence did not consider that Egyptian forces were deployed for early attack but argued rather that President Nasser intended to provoke Israel to attack in the confident expectation that his reinforced army in the Sinai could absorb and repel the first strike. The problem of defense was neither immediate nor serious. Senior officials

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to meet frequently with Eshkol and Rabin and pressed the prime minister to agree to a preemptive strike.

also reported the results of Pentagon studies prepared for President Johnson which suggested that, although casualties would be higher if Egypt struck first, Israel would win a military victory whether it preempted or absorbed a first strike.[31] Finally, they argued that a delay in military action increased the effectiveness of Israel's fighting capacity, while Egyptian lines of communication and supply were long, overextended, and a logistical nightmare (Eban, 1977:352).[32]

Although General Wheeler did not consider preemptive action a matter of urgency, he and Secretary McNamara opposed the organization of an international naval task force. More precisely than Israel's decisionmakers, they suggested that the problem was not the blockade but the failure of deterrence. The opening of the Straits by an international flotilla would not restore Israel's deterrent capability; that problem was principally Israel's (Geva, 1971; Bar-Zohar, 1970:116-118; and Quandt, 1977:47).[33] Even if tacit, the policy implications were obvious.

By mid-afternoon, Eban's meeting with President Johnson had not yet been officially confirmed. Concerned by a flow of telegrams from the prime minister insisting that he return for a cabinet meeting the following evening, Eban sent Evron to the White House "to make urgent inquiry" (1977:353). When Evron assured Rostow that Eban would disclose nothing of his conversation with the president to the press, a meeting was quickly arranged for 1900 hours. In the interim, President Johnson asked to see Evron and, in the half-hour before Eban arrived, outlined the essentials of the American position. Later that evening, Evron cabled a detailed report of his conversation with the president to Jerusalem. President Johnson, unlike his military counselors, considered the blockade to be the principal problem: "The objective is to open the Straits for navigation by all States

31. Quandt (1977:50) reports that both the CIA and the Pentagon considered a victory by Israel likely no matter who struck first. Both estimated that the fighting would last no longer than a week.

32. The logic of this argument, as reported by Eban, is somewhat difficult to follow. Israel had derived military benefit from delay from 19 to 25 May when it was completing the mobilization of its forces and discussing contingency plans for attack. The army was now prepared, however, for military action. The Egyptian army had deployed additional forces hastily on 25 May and should have benefited from additional time to organize. Eban does not distinguish, in his reporting, between past and future benefits of delay. Quandt makes no mention of such an estimate by American military officials when he summarizes CIA and Pentagon evaluations. It is possible that Eban is bolstering support for his preferred option. Bolstering would explain Eban's omission, in his account of the meeting, of Pentagon opposition to the flotilla on military grounds.

33. Quandt reports that the Pentagon strongly opposed the limited use of military force. Military officials raised such issues as the likely American response if Egypt fired on an American ship, the possible commitment of American ground troops if Egypt used military force, and the likelihood of an open-ended commitment even if Egypt did not respond. Success of such an operation was far from assured and, as Quandt notes, McNamara could scarcely hide his skepticism. The multinational fleet was "a military man's nightmare" (1977:47). Many of the arguments raised by McNamara were similar to those made by Allon in Israel's cabinet discussions.

including Israel and this objective shall be carried out."[34] Although he was optimistic about the prospects of a flotilla with Britain and other maritime states, the president underlined the importance of full congressional support and consultation with the United Nations. He was explicit in his warning, moreover, that the United States could not extend political support to unilateral military action by Israel. Any such action, the president insisted, would cause Israel severe damage. The thrust of the president's message was clear: although time and effort would be necessary to organize a flotilla, support for a preemptive strike was not likely.

Eban and Harman arrived shortly thereafter for the formal meeting with the president.[35] Eban began by telling the president that he had come to discuss the blockade but, in the meantime, the graver issue of an imminent attack had arisen. Even then, however:

> If the President would tell me that the Straits were going to be opened again, and if he would make common cause with Israel on this matter, then there was still a possibility that Nasser would retreat, and a victory would be won for legality without war (1977:356).

Despite his reference to the troop concentrations, the foreign minister emphasized the problem of the blockade and urged international rather than national action. He and President Johnson argued from similar premises: both focused on opening the closed Straits and paid less attention to defense or deterrence.

The president reiterated the importance of congressional support for any American initiative and argued that the United Nations must try and fail before Congress would support independent action by maritime powers. He was hopeful that Britain, Canada, and other European states might

34. The text of Evron's cable to Jerusalem is as follows: "When I entered the room, the President told me that he fully understood the gravity of Israel's position. The first step would have to be the laying of a Congressional basis for any support of Israel's position. . . The United States had pledged itself to preserve freedom of passage in the Straits of Tiran and the United States would carry out that obligation. But anything involving even a possibility of force would be impractical unless the proper Congressional basis were laid in advance. The President spoke optimistically about the possibility of setting up a structure with the active support of Britain and other maritime powers after the conclusion of a quick debate at the United Nations. [His advisers] had expressed their support in the following formulation: 'The objective is to open the Straits for navigation by all States including Israel and this objective shall be carried out.' Mr. Johnson made it clear that the appraisal in Jerusalem about an imminent Egyptian surprise attack was not shared by the United States. Israel was a sovereign Government, and if it decided to act alone, it could of course do so; but in that case everything that happened before and afterwards would be upon its responsibility and the United States would have no obligation for any consequences that might ensue. He refused to believe that Israel would carry out unilateral action which was bound to bring her great damage. He said that . . . he was not prepared to act in a manner . . . to bring about the intervention of the Soviet Union" (Foreign Ministry sources, cited by Brecher, 1975:390-391).

35. Six of President Johnson's advisers also participated in the meeting: Secretary of State Rusk, Secretary McNamara, Walt Rostow from the White House, Eugene Rostow and Joseph Sisco from the State Department, and George Christian, the president's press secretary.

contribute to a naval task force. Johnson assured Eban that "you can tell your Cabinet that the President, the Congress, and the country will vigorously support a plan to use any or all measures to open the Straits" (cited by Eban, 1977:358 and Johnson, 1971:293). The Straits must be opened not only to international shipping but specifically to ships of Israel's registry. The president was optimistic that the problem of the blockade would soon be settled and repeated his earlier warning against unilateral action by Israel:

> I do not believe that the procedure outlined for building up an international task force is going to take too long. The purpose is to see to it that Israeli ships go through. I have been into all aspects of Israel's security situation. I am aware of what it is costing but it is less costly than to precipitate the matter while the jury is still out and to have the world against you. Israel will not be alone unless it decides to go alone (cited by Eban, 1977:358).

President Johnson repeated this last phrase three times. As Eban noted, it was to become his watchword during the next week.

Ambassador Harman had taken detailed notes of the conversation and, at the end of the meeting, the president gave Eban an *aide-memoire* summarizing the scope and limits of the American undertaking to open the Straits of Tiran and reiterating the injunction against military action by Israel:

> The United States has its own Constitutional processes, which are basic to its actions on matters involving war and peace. The Secretary General has not yet reported to the UN Security Council and the Council has not yet demonstrated what it may or may not be able or willing to do, although the United States will press for prompt action in the UN. I have already publicly stated this week our view on the safety of Israel and on the Strait of Tiran. Regarding the Strait we plan to pursue vigorously the measures which can be taken by maritime nations to assure that the Strait and the Gulf remain open to free and innocent passage of all the vessels of nations. I must emphasize the necessity for Israel not to make itself responsible for the initiation of hostilities. Israel will not be alone unless it decides to go alone. We cannot imagine that it will make this decision (Quandt, 1977:53-54 and Eban, 1977:359).

Eban left the meeting more optimistic about the likelihood of an international task force than about American reaction should Israel choose preemption. One purpose of his mission had been achieved: American intentions, should Israel act alone, were now much clearer.

Eban and Harman left for New York, Harman to prepare minutes of the meeting with the President and Eban to consult briefly with the American ambassador to the United Nations, Arthur Goldberg. U Thant had just reported to the Security Council the assurances given him by President Nasser during his trip to Cairo that Egypt would not initiate hostilities against Israel.[36] Skeptical of the results of multilateral action, the

36. See the Report of the Secretary-General, 26 May 1967, Security Council Document

ambassador urged Eban to give greatest weight to the words of the President himself in interpreting the variety of available evidence. In an America torn by Vietnam, President Johnson's statements were the most valid indicator of American intentions. After the meeting, Eban enplaned for Jerusalem with a copy of the minutes of the discussion with the president which Harman had prepared. Late that night, Ambassador Harman cabled that Eban had not had time to report fully on his conversation with President Johnson before his departure, but that he was bringing the full protocol with him.[37]

While Eban gathered evidence on likely American behavior, President Nasser clarified his intentions and made explicit his revised estimate of relative capabilities which led him to challenge deterrence. In a speech to a delegation of the Damascus-based Arab Workers Conference on 26 May, the president explained:

> Recently we have felt strong enough that if we were to enter a battle with Israel we would triumph. Taking over Sharm el-Shaykh meant confrontation with Israel. Taking such action also meant that we were ready to enter a general war with Israel. It was not a separate operation. If Israel embarks on an aggression against Syria or Egypt, the battle against Israel will be a general one and our basic objective will be to destroy Israel. I probably could not have said such things five or even three years ago. Today, some eleven years after 1956, I say such things because I am confident (1967b).

The president himself interpreted the imposition of the blockade as a general challenge to deterrence. His close adviser, Mohammed Hassanein Heikal, extended the analysis further to insist that Israel had no choice but to act to restore its deterrent reputation. Writing in *Al-Ahram* that same day, Heikal argued:

> Therefore, it is not a matter of the Gulf of Aqaba, but of something bigger. It is the whole philosophy of Israeli security. Hence I say that Israel must resort to arms. Israel has no alternative but to use arms if it wants to exercise power. The logic of the confrontation between Egypt and Israel, which is fortified by the illusion of American might, dictates that Egypt after all it has now succeeded in achieving, must wait, even though it has to wait for a blow. Let Israel begin; let our second blow then be ready (1967).[38]

S/7906. In his discussions in Cairo, U Thant apparently persuaded President Nasser not to stop and search ships while in return Israel would be asked not to send a test ship through the Straits. U Thant did not publicize the agreement lest it convey acceptance of the blockade. The promise to refrain from a first strike, however, was consistent with the American estimate of President Nasser's strategy.

37. The text of Harman's cable was quoted by Eshkol in an answer to a question in parliament. See Eshkol, 1968b.

38. President Nasser's speech was broadcast by Radio Cairo, and Eban was handed a text of it as well as a copy of the article by Heikal when his plane stopped for refueling in Paris en route to Jerusalem. There are minor differences in several available translations of Heikal's column. This version is that provided by Eban which presumably is a record of the document he received that night.

His analysis was a model of logic and precision. It defined the problem clearly: the issue was not the blockade but the challenge to Israel's capacity to deter. Heikal was even more helpful. He informed his readers that the hypothesis that an American commitment could reestablish deterrence was a delusion. Finally, he clarified Egypt's strategy of provoking a first strike by Israel in order to retaliate. His interpretation was consistent with that of U Thant and American intelligence. Israel's problem was not to lift the blockade or to defend against imminent attack; it was principally to reestablish deterrence.

During the night of 26-27 May, the Soviet ambassador requested an urgent meeting with Eshkol. When they met at the prime minister's home in "pajama conference" at 0235 in the morning, Chuvakin transmitted a note from Prime Minister Kosygin which, in restrained language, appealed to Israel to refrain from the use of force: "it is essential to find means to settle the conflict by non-military means. It is easy to light a conflagration but difficult to put out the flame" (Kosygin, 1967 and cited by Eban, 1977:366).[39] The Soviet leader issued no threat in his appeal to Eshkol, nor did he make the usual charges holding Israel responsible for the escalating tension. On the contrary, as Eban would subsequently note, "there was less invective here than usual and a perceptible note of anxiety" (1977:366). The tone of Kosygin's note would be important evidence in the attempt later that day to evaluate Soviet intentions.[40]

Israel's decisionmakers now began a collective process of revision, evaluation, and decision that would extend for almost twenty-four hours. Since the last cabinet meeting, a great deal of new information on Egyptian intent and capabilities and on Soviet and American intentions had accumulated. When the cabinet began meeting in secret session,[41] however, information was still incomplete. Evron's long cable had arrived, but ministers knew only that Eban was bringing the full record of his discussions with President Johnson with him. They had no way of anticipating the convergence between the two reports.

The cabinet was joined in its deliberations by the senior military leadership—Rabin, Weizman, Bar-Lev, and Yariv—by Dinstein, the deputy minister of defense, and by Levavi, the director-general of the

39. Again, there are insignificant differences of language between Eban's version of the Soviet note and that published by the *Jerusalem Post* on 4 June, 1967.

40. The stimulus to the urgent Soviet request for restraint was Eban's transmission to Washington of Israel's estimate of an imminent Arab attack. President Johnson warned Egypt against military action and requested the Soviet Union to reinforce his attempt at deterrence. The Soviet Union consequently delivered warning messages to both Egypt and Israel in the early hours of 27 May. At the time, Israel's decisionmakers were unaware of the simultaneous message to Cairo.

41. If a choice to preempt were anticipated by decisionmakers, a secret meeting would be of critical importance in preserving tactical surprise. Eban had informed Washington, however, of the crucial cabinet meeting when he pressed for an appointment with President Johnson.

Foreign Ministry, who served as Eban's surrogate in his absence. The ministers did not adjourn their meeting until after 0400 hours the next morning. Discussion was exhaustive and exhausting but produced no decision. Cabinet members could not agree on the best course of action in part because they were imprecise in defining the problem for decision. Although they were not fully conscious of it, decisionmakers discussed several problems simultaneously

The director of Military Intelligence presented his report which emphasized the increasing military preparedness of Arab armies. Dayan subsequently summarized the intelligence estimate of 27 May:[42]

> Within Sinai, the Egyptians already had some 900 tanks, more than 200 warplanes, and about 80,000 troops. From the data and a good deal of additional information it seemed that apart from the operational plans for her ground forces, Egypt also had plans for an air attack, which might be launched simultaneously with her ground attack or in response to action by us (1976:265).

The intelligence estimate placed heavy emphasis on capability variables. It now considered Egyptian capabilities adequate for a general attack (H_1 to H_2). Whether the problem was defense or the reestablishment of deterrence, Israel's army faced growing strength in the Sinai. Military leaders expressed confidence in Israel's military capabilities but warned that additional delay would impose heavy costs in casualties and compromise the chances of success.[43] The prime minister then reported on his early morning conversation with Ambassador Chuvakin. Some of those he had consulted interpreted the Soviet note as an attempt to gain time to better coordinate action with Egypt.[44]

Eban arrived shortly after the cabinet meeting began and briefly reviewed the results of his meetings with President de Gaulle and Prime Minister Wilson. Although cabled summaries of these conversations had been available for three days, Eban felt it necessary particularly to emphasize de Gaulle's unyielding opposition to military action by Israel.

The foreign minister then read to the cabinet parts of Ambassador

42. Dayan was not a member of the cabinet and did not participate in the meeting. He provides the most reliable evidence, however, of that day's estimate by Military Intelligence. Dayan had met with Weizman that morning and expressed his uncertainty about Egyptian intent. He requested the opportunity to see the relevant intelligence information and, at 1500 hours that afternoon, the deputy chief of intelligence brought him the data he requested.

43. Eban challenges the divergence in military estimates of the consequences of immediate military action and delay. It is difficult to understand, he argues, how the cost could increase so heavily if Israel waited (1977:371).

44. At 0800 that morning, Eshkol met with Amit, the head of Ha-Mossad. At 0900 he reviewed the daily intelligence report with Rabin and Yariv and at 0930 he met with a group of invited colleagues--Galili, Allon, Sasson, Meir, Rabin, Yariv, Herzog, and Levavi—to discuss his meeting with the Soviet ambassador. The dominant interpretation of a Soviet attempt to delay was reinforced by the announced visit of Egyptian Minister of War Badran to Moscow.

Harman's detailed summary of the meeting with President Johnson and reviewed the American proposal for an international naval patrol. Although he could not guarantee that the flotilla would indeed materialize, Eban emphasized that President Johnson had committed himself to use every possible means to break the blockade.[45] Despite his emphasis on the blockade, he concluded by defining the problem as one of political timing for military action and acknowledging the conflict of values:

> Had we created political conditions in which a victory, if achieved, would be ratified by political success? Or, conversely, would the political advantages of some further diplomatic action outweigh the physical dangers inherent in delay? (1977:365).

Eban insisted that both because President Johnson had undertaken responsibility to open the Straits and because Israel had requested Washington to restrain Egypt, Israel must now delay military action to ensure diplomatic support (1977:367, 368). Even if American efforts to open the Straits should fail, Israel would derive political benefit in its relationship with the United States if it waited. Sensing the deep division within the room, the foreign minister concluded with the proposal that the cabinet decide to wait an additional forty-eight hours.

In his report to the cabinet, Eban continued to discuss the two problems of blockade and deterrence as well as the relationship between them. Although, logically, Israel could expect greater diplomatic support for retaliation if it waited for a flotilla that did not materialize, the reverse was not true. If the flotilla succeeded, there would be no corresponding benefit to Israel's independent capacity to deter. Eban made the first and ignored the second argument.[46]

The prime minister disputed Eban's equation of the two problems and accorded priority to the reestablishment of a credible deterrent. He could see no benefit, therefore, from delay which would compensate for the

45. Dayan (1976:265) recalls that the intelligence estimate of American intentions on 27 May, done independently of the Foreign Office, stressed the ambiguity of the evidence and the consequent uncertainty. The deputy director of intelligence had summarized the thrust of President Johnson's position: first, given time, the United States would open the Straits; second, Israel must not take unilateral action; and third, if Egypt attacks, the United States would support Israel. Dayan continues his summary of the intelligence estimate: "On the other hand, we had information that the Americans were trying to appease the Egyptians. Johnson was ready to invite Nasser to Washington to give him grants and loans, and the American ambassador to Cairo had told Nasser that the United States was not with Israel. However, there was no information repudiating the report that the same ambassador had officially requested that Egypt open the Straits, restore the UNEF, and withdraw her troops from the border." Military Intelligence appeared to be using multiple sources of evidence and to be assessing the impact of information on competing hypotheses of American intent.

46. Eban argues: "To defeat Nasser's blockade and troop concentration in May by a combination of military preparedness and political pressures would be no less . . . significant than to bring him low by an actual trial of strength" (1977:372). Eban does not distinguish between national deterrent capability and international coercive diplomacy.

continuing erosion of Israel's deterrent reputation and for the increasing military cost of attack as the Egyptian army organized. If Israel did not attack, he argued, it would be interpreted as a sign of weakness.

Allon challenged the logic of Eban's analysis even more forcefully. The issue was not the blockade, he subsequently wrote, but the challenge to deterrence and defense: "Freedom of navigation has become a secondary consideration. The concentration of offensive forces in Sinai had become the crucial challenge" (1970:81). Israel would improve its power to deter if it acted alone rather than with the help of a great power; had it done so in 1956, it would have avoided some of its postwar difficulties. The wrong lessons were being learned from history. The foreign minister's trip, he insisted, was a mistake and should never have been made; it had already proven costly by limiting Israel's freedom to act.

Allon went even further in his criticism. Not only was the flotilla irrelevant to the central problem, but it could precipitate an Egyptian attack and deprive Israel of the important advantages of preemption and surprise:

> Even supposing that an international fleet had reached the Red Sea, this in itself would have had no effect on the land and air fronts. On the contrary, it is not unreasonable to assume that, in anticipation of the arrival of such an international expeditionary fleet, the Arab High Command might have put forward the date of its attack on Israel in order to establish a *fait accompli* before the arrival of the fleet. [Israel] could not wait for something to turn up—not even an illusory international fleet. She could not wait for a major Egyptian attack before launching her counter-attack; since wars do not start with a "first shell" but with a major air attack, this might have proved fatal. It is quite probable that the Egyptian High Command, seeing through such a strategem, would have refrained from attacking this isolated ship and instead launched its full-scale offensive against Israel (1970:81-82).

Allon emphasized the cost to Israel if it absorbed an Egyptian first strike. Moreover, the cost of military action was increasing as Egyptian forces deployed and organized; time was working against Israel (1967b). Allon concluded by expressing his confidence in the capacity of the I.D.F. to win a military victory and urged an immediate preemptive strike.

Moshe Carmel, the minister of transport, agreed with Allon's definition of the problem for decision, his estimate of the probability of an Arab attack, and his evaluation of the consequences of further delay:

> There was no prospect whatsoever that the Straits would be reopened. And even if, by some miracle, they were, that would not solve the main problem—the threat of the massed Egyptian troops poised along our southern border. I feared their military initiative. There was the overall military-political view of the necessity for us to take our fate in our own hands and to smash the aggressive Egyptian build-up (1972).

Like Allon, Carmel urged a choice to preempt.

Members of Mapam, a smaller party in the governing coalition, agreed that the concentration of Egyptian forces, not the blockade of the Straits, was the central challenge to decision. However, they did not accept the estimate of a high probability of an imminent Arab attack. At least in the short run, they argued, Nasser would consolidate his considerable victory. There was still time, therefore, to examine further diplomatic alternatives (Bentov, 1972). Ministers representing the National Religious Party (Mafdal) in the coalition shared Eban's emphasis on the importance of opening the Straits. They found his report encouraging and argued that the possibility of an international flotilla could not be dismissed. They too urged that diplomatic opportunities be explored further before Israel took independent military action.

From the long discussion, it was apparent that the cabinet was deadlocked as ministers divided evenly in favor of and against preemption.[47] The three members of Ahdut Ha'avodah, led by Allon, and six Mapai ministers, including the prime minister, supported preemption. Opposed were the three remaining Mapai ministers, led by Eban, the two members from Mapam, the representative of the Independent Liberals, and all three ministers from the National Religious Party.[48] In many cases, party affiliation overlapped with support or opposition to immediate action; in this case, party affiliation is more strongly related to preference than is organizational interest. The differences in preferences, however, flowed logically from different definitions of the principal alternatives and different evaluations of the cost and benefit of these consequences.

For the ministers represented by Allon and Carmel, a choice to preempt was obvious and easy. They defined the problem both as defense against an imminent attack and the reestablishment of deterrence. They considered an Arab attack very likely and American support as unimportant to Israel's future capacity to deter. Logically, if American diplomatic support was unimportant, then the flotilla was irrelevant. In attempting to persuade their colleagues of the dominance of a strategy of preemption, however, both Allon and Carmel resorted to inferences of impossibility to dismiss the international naval patrol. They did not need to do so, given their logic which eliminated the flotilla from consideration. Rather than rely exclusively on the logic of their argument, however, they used extra-logical techniques to reduce the attractiveness of the competing option. By insisting that the flotilla was impossible, they weakened their argument that it was irrelevant.

47. Eban (1977:367) insists that no formal vote was taken that evening and that the 9 to 9 division among cabinet members was inferred from the content of their speeches. Carmel (1972), on the other hand, and Rabin (1979:91) insist that a formal vote was taken.

48. For preemption were Allon, Carmel, and Galili (Ahdut Ha'avodah) and Eshkol, Gvati, Sasson, Shapira, Sharef, and Yeshayahu (Mapai). Opposed were Sapir, Aranne, and Eban (Mapai), Barzilai and Bentov (Mapam), Kol (Independent Liberals), and Burg, H. M. Shapira, and Warhaftig (Mafdal or National Religious Party).

The prime minister and most of his Mapai colleagues now shared this emphasis on defense against an imminent attack and the restoration of a credible deterrent posture. The concentration of forces, rather than the blockade, was the primary problem. Unlike Allon, however, they considered American diplomatic support important to Israel's future capacity to deter and valued it highly. Their choice was not easy, therefore, and they had made it more difficult by changing their definition of the problem for decision in midstream. Although they acknowledged that the likelihood of this support would be less if they chose military action after American planning for a flotilla had begun, they reluctantly supported preemption.

The Mapam ministers defined the problem more narrowly as the recreation of a credible deterrent. While they challenged the estimate of a high probability of an Egyptian attack, they did agree with the prime minister that American support was very important. Consequently, they preferred to continue to try to consolidate international support; there was time to wait.

The last group, represented by Eban, concentrated primarily on the blockade and secondarily on deterrence.[49] They considered that President Nasser might delay if not refrain from the use of force, given his enormous diplomatic success and, more so than their colleagues, they relied heavily on American support. Members of the National Religious Party, in particular, were influenced by Ben Gurion's strong emphasis on an ally as a prerequisite to attack (Eban, 1977:371). They were also less skeptical than most of their colleagues about the possibility of an international flotilla which could address the problem of the blockade directly. Even if the flotilla failed, since the problem of defense was present but not urgent, Israel could then retaliate to restore deterrence with enhanced American support. For the moment at least, a strategy of waiting was preferable.

Here matters stood as cabinet ministers debated the alternatives. They began from different premises, worked with different estimates, and, at times, argued past rather than with each other. Finally, at 0400 in the morning, the prime minister suggested to his tired colleagues that they adjourn for a few hours, reconsider their positions, and meet again that afternoon. Important new information would arrive during the morning, however, before the cabinet reconvened at 1500 hours.

To ensure symmetry in reporting, Ambassador Barbour of the United States brought to the assistant director-general of the Foreign Ministry,

49. In his autobiography, Eban argued that the decisive question was the blockade of the Straits of Tiran: "a blockade in the Straits and in the Gulf of Aqaba, unlike the troop concentrations, would take us to a point of no return. Troop movements, after all, could be ordered and later dispersed without loss of face or implication of retreat. But if a blockade was imposed, its cancellation was inconceivable except under pressure or threat of physical force" (1977:326).

Moshe Bitan, an official State Department summary of Eban's discussions in Washington. The summary reiterated the three-stage plan to organize a naval presence[50] and reported that President Johnson had repeated his determination to make the maritime plan work. Finally, the department summary acknowledged that the president "had decided to make every possible effort to assure that the Straits and the Gulf would be open to free and innocent passage" (cited by Eban, 1977:369). The thrust of Eban's report to the cabinet was confirmed by independent evidence.[51]

A little later that morning, at 1100 hours, Prime Minister Eshkol received a note from President Johnson. The president wrote that he had received a message from the Soviet Union indicating that it had information that Israel was preparing to attack. "The Soviets state that if Israel starts military action, the Soviet Union will extend help to the attacked States" (Foreign Ministry, cited by Brecher, 1975:398). This was the most explicit threat of Soviet intervention that Eshkol had received. Johnson reported that the Soviet Union had asked the United States to prevent such an attack, and he concluded by telling Eshkol that, as Israel's friend, he must repeat more strongly what he had already told Eban: "Israel just must not take preemptive military action and thereby make itself responsible for the initiation of hostilities" (cited by Eban, 1977:370). The president then requested a two- to three-week delay before Israel would resort to force to open the Straits (Quandt, 1977:54-55).[52]

More decisive was a written memorandum which Rusk attached to the president's letter. The secretary told his ambassador to convey the following message to Eshkol and Eban:

> The British and the United States are proceeding urgently to prepare the military aspects of the international naval escort plan. The Dutch and Canadians have already joined even before a text was presented to them. With the assurance of international determination to make every effort to keep the Straits open to

50. Eban quotes the State Department summary as follows: "The preparation of a plan for a naval presence which hopefully would be enough to deter the UAR from interfering with freedom of passage in the Straits if the United Nations proceedings failed" (1977:368). This is a considerably weaker version than earlier formulations since it places heaviest emphasis on the threat rather than the use of force and attempts to deter a blockade that had already been imposed. There is also the somewhat curious use of the concept of deterrence. Brecher, quoting Foreign Ministry sources, cites the same document somewhat differently: "An international naval presence *in* the area of the Gulf to be made operative only if the Security Council failed to keep the Straits and the Gulf open to the shipping of all nations as a matter of right" (1975:399-400). The discrepancy suggests that Eban is applying his particular concept of deterrence to the American plan for a flotilla.

51. Eban (1977:369) refers to the repeated challenges by colleagues of the reliability of his report and notes his practice of having important conversations recorded by an associate to improve the reliability of the record. If political advantage is discounted, members of the cabinet appeared to place considerable emphasis on the quality of the information they received.

52. Eshkol also received a telegram from Prime Minister Wilson which was similar in thrust if gentler in tone: "We understand that you are approaching a moment of fateful decision, and we strongly urge you to continue a policy of restraint, as long as diplomatic efforts are under way to find a satisfactory solution" (cited by Bar-Zohar, 1970:147).

the flags of all nations, unilateral action on the part of Israel would be irresponsible and catastrophic (cited by Eban, 1977:370).

A cable from Ambassador Harman provided convergent evidence of the higher probability of an international flotilla. He reported that Eugene Rostow had informed him that Britain and Holland had agreed to join the flotilla and Canada had promised a ship for the naval patrol. Moreover, if necessary, the United States would act alone.

The cabinet reconvened with a review by Eban of the new evidence on President Johnson's commitment to try to open the Straits. The foreign minister also reported the unequivocal warnings against unilateral military action by President Johnson and Secretary of State Rusk and referred to the contents of the Soviet note to Washington. He considered these less decisive than the increase in the probability of an international flotilla in persuading his colleagues to change their preferences: "It was not the Soviet warnings, but the American show of resolution which won the day" (1977:370).

The prime minister acknowledged that he had been prepared to recommend a preemptive strike the night before, but he was particularly impressed by Secretary Rusk's progress report on the naval escort. Although he was considerably less optimistic than Eban about the probable success of the flotilla, he argued nevertheless that the request from the United States must be considered seriously. Nor could American warnings against unilateral action be ignored.[53] Eshkol was now prepared to advise the cabinet to give the United States and its allies the two weeks required to organize the flotilla. On the basis of new information, the prime minister increased his estimate of the cost of military action as well as the probability of a naval patrol and altered his choice. He emphasized that, although he was recommending further delay, the army would remain mobilized and changes in Egyptian capabilities and intent would be closely monitored.

The prime minister carried with him his Mapai colleagues who had supported preemption the night before while the new information strengthened the decision of the Mapam and Mafdal ministers who already preferred delay. Together with those who had followed Eshkol, there was now an overwhelming majority for delay. Carmel was the lone dissenter, while his fellow member of Ahdut Ha'avodah, Allon, abstained. Carmel argued strongly that with every passing day the probability of an Egyptian attack would grow as Israel's capacity to deter diminished. Allon stated

53. The prime minister would later explain one of his reasons for changing his preference from preemption to delay. After reading Johnson's letter and Rusk's message, he argued: "I did not want him [President Johnson] to come afterwards and say: 'I warned you in advance and now you cannot make any claims whatever on the United States and its allies' " (1967b, also cited in Eban, 1977:372).

formally that he reserved the right to call the cabinet back into session to reconsider its decision, for he considered the decision fundamentally wrong. If military action were delayed for two weeks, the Egyptian army would improve its deployment and logistics and the cost of military action then would be much greater than now (1967b, 1968). The chief of staff concurred with this analysis.

Slightly more than two hours after the cabinet began meeting, the prime minister asked for a vote where members would express their differences, record their preferences, and produce a collective decision. Sixteen ministers chose formally to refrain from military action, taking note of the promise of the president of the United States to undertake efforts to assure freedom of navigation in the Gulf of Aqaba. At the same time, the cabinet decided to maintain the level of alert and mobilization of reserves in the army.

The Rationality of the Process

How can this decision of 28 May best be explained? What kinds of processes did individual members of the cabinet use to make their choices? And why did seven of the eighteen ministers shift their preferences in less than twenty-four hours? Did members of the cabinet simply "follow their leader"? If so, why did the prime minister change his decision? Or, does coalition-building in a multi-party government provide a better explanation of the processes members of the group used to make their decision? Intergovernmental bargaining, persuasive argumentation, and rationalization within the comfort of a group of concurrence-seeking colleagues are all plausible explanations of the processes that led to the decision to delay.

The record of cabinet deliberations is most consistent with an explanation of a cognitive-analytic path to choice by a pivotal group of ministers. The capacity of some members of the cabinet to follow such a path to decision can be related, in turn, to the pattern of crisis-induced stress, group norms and procedures, and the quality of available strategic logic. In the first instance, however, this decision to refrain from military action is best explained by the performance of the prime minister and some of his colleagues who, unlike other members of the cabinet, acknowledged value complexity and avoided claims of dominance for their preferred strategy. And more so than at any other moment since Egypt began to move its forces across the Canal, values conflicted and choice was difficult.

The difficulties began at the beginning as members of the cabinet struggled to diagnose the problem for decision. They could and did consider the blockade, the capacity to deter, and defense against imminent attack, singly or in combination, as the central issues. Strategic concepts detailed both a blockade and a concentration of forces as unacceptable, but provided no guidance on the relative importance of the two *casus belli*.

When deterrence failure was multiple but not yet total, strategic doctrine provided no procedures for establishing priorities. Strategic concepts were sufficiently imprecise so that decisionmakers could draw on different components to focus on one or another issue as the principal problem. The logical implications of different definitions of the problem were not always apparent to those making the decisions; on the contrary, they could avoid some troublesome contradictions by shifting from one definition to another. The most serious obstacle to rational decision was not complex calculation but rigorous definition.

The difference in problem diagnosis had no immediate impact on the search for policy options (Table 6.3). The two principal options which had been identified earlier in the decisional sequence were relevant to all conceptualizations of the problem for action, and key members of the cabinet concentrated on refining those options rather than identifying additional alternatives. The first option of unilateral military action now included a preemptive air strike and a limited or large-scale ground attack in the Sinai peninsula. Either variant was consistent with the general thrust of strategic thinking which emphasized the importance of initiative, indirection, and tactical surprise.

TABLE 6.3

28 MAY: A COGNITIVE-ANALYTIC PATH TO CHOICE
(Path 7)

STIMULUS:	Increase in Egyptian military capabilities; Nasser's speech of 26 May redefining the challenge.
SEARCH:	Very limited; no search for new options but refinement of the two options already identified.
ESTIMATION AND REVISION:	Analytic; careful about reliability and validity of the evidence; use of multiple indicators to revise estimate of probability of attack; use of multiple sources of evidence to assess likelihood of American support; sensitive to new evidence; strategic concepts provide little guidance in weighting importance of different indicators; different weighting associated with different definitions of the problem for decision.
EVALUATION:	Analytic by core group of decisionmakers who acknowledge value complexity; preemption brings military benefit but increased diplomatic cost; delay provides diplomatic benefit but growing military cost; two sets of more firmly committed decisionmakers deny value complexity and claim dominance.
CHOICE:	Analytic; decisionmakers recalculate probability of US support and diplomatic cost of preemption and admit the complexity of choice; choice is difficult and painful.

The only other alternative on the table was a delay in military action, and it had now been amended and extended to include a wait for the organization of an international flotilla. Although this alternative was

inspired by those strategic arguments which stress the importance of international support as a prerequisite to military action, there was a logical slip in their application. As the problem persisted, the likelihood of support from the great powers became indissolubly tied to permitting plans for an international naval patrol to go forward. This connection obscured the logical distinction between international support for independent action to restore deterrence and international action to lift the blockade. In translating the concept from the general to the specific, decisionmakers did not pay much attention to these nuances. Search was constrained both by the logic of strategic argument and by its application.

Ministers were much more careful in their handling of information. Indeed, they approximated analytic procedures in their scrupulous attention to the reliability and validity of the information they examined and in their careful attention to indicators to revise their estimates. When members of the cabinet received official confirmation of the content of Eban's discussion with President Johnson, their confidence in the reliability of their information increased, and they were more willing to draw inferences from it. Decisionmakers also recognized the limits of their evidence and tried to compensate for it. When they had only Evron's report on American intentions, they postponed choice to await better quality and more complete information.

Policymakers also were sophisticated in the use of multiple indicators to increase the validity of the estimates they made. In assessing likely American behavior, for example, Eban was sensitive to the relative importance of commitments from the Pentagon, the State Department, and the White House. Although he used multiple sources of evidence, he weighted the statements of the president most heavily to reflect their greater validity as an indicator of American intentions.

To update their estimate of the probability of attack, military decisionmakers used capability and intent indicators and discriminated between them. They examined changes in the deployment of armor and aircraft, the state of alert in the Egyptian armed forces, and the commitment of manpower to forward positions in Sinai. Military Intelligence gave special weight to an indicator they considered particularly valid. The qualitative increase in capabilities signaled by the transfer of the Fourth Armored Division was treated as highly diagnostic. Special Services (Ha-Mossad) independently examined and evaluated the changes in capabilities, and the estimates of the two intelligence agencies converged. Finally, capability indicators were used jointly with statements of intent as President Nasser's fiery speech led decisionmakers to revise further their estimated probability of attack.

All the members of the cabinet revised their assumptions in response to changes in these diagnostic indicators, and there was a general consensus

that Egyptian capabilities were now adequate for attack (H_1 to H_2). For some, however, the argument was permissive rather than conclusive. Eban and the two Mapam ministers gave greater weight to President Nasser's statements to the secretary-general and Heikal's explanation of Egyptian strategy. Working with these indicators, they inferred that an Egyptian attack, though likely in the longer run should Nasser's present challenge to deterrence succeed, was not imminent. Indeed, Eban had argued forty-eight hours earlier that Egypt's president did not want war, but victory without war (1977:360). Military Intelligence, the chief of staff, and Allon and Carmel relied more heavily on capability variables and estimated a higher probability of attack.

These competing interpretations of Egyptian strategy were voiced and considered during cabinet discussion and, indeed, became the central focus of debate. Members of the cabinet were not agreed on the scope of the challenge to deterrence, and reference to prevailing strategic concepts could not resolve these differences. Although strategic doctrine was useful in listing indicators to be monitored, it did not establish the relative importance of capability and intent variables in assessing the likelihood and scope of deterrence failure. Strategic arguments were insufficiently coherent to guide the use of indicators.

This difference in emphasis on capability and intent facilitated the difference in problem definition. Military decisionmakers emphasized capabilities, estimated a higher likelihood of attack, and stressed defense and the need for credible deterrence. Eban gave greater weight to intent, inferred a lower probability of attack, and concentrated primarily on the blockade and only secondarily on the reestablishment of deterrence. It is difficult to know whether decisionmakers derived their procedures for weighting from their definition of the problem or defined the problem for decision in response to their estimates of likely Egyptian behavior. In the absence of conclusive evidence, the former is more likely.

In comparison with their process of estimating likely Egyptian behavior, most members of the cabinet brought much less intellectual baggage with them when they considered the probability of an international flotilla. Generally, Israel's decisionmakers were skeptical of great-power action and considered the probability of effective international action to be low; such attitudes were part of the traditional emphasis on self-reliance. These initial assumptions were less salient, however, and consequently more open to revision. When cabinet members received additional information from Johnson and Rusk on 28 May, therefore, many increased their estimate of the likelihood of the flotilla.

Those who were most strongly committed to a particular definition of the problem, however, diverged from this generally reasonable process of estimation and produced distorted estimates of likelihood. Allon and

Carmel, who logically considered a flotilla irrelevant, argued that it was impossible. Their expectations were not independent of their preferences. But they were the exception rather than the rule. Eban, who was strongly committed to defeating the blockade, was scrupulously careful to avoid categorical estimates in his presentation to the cabinet: "I would not commit myself to the view that the international patrol would ever come to anything" (1977:367). Most decisionmakers tried to separate what they wanted from what they expected in a high quality process of inference.

Decisionmakers also were effective in linking the options they identified to their consequences. They thought in cause-effect sequences and did see the behavior of others as contingent on their own. Allon, for example, argued strongly that the longer Israel delayed its retaliatory strike, the more likely that Egypt would attack; delay would signal weakness and invite an Egyptian first strike. Decisionmakers also considered the probability of American support and Soviet intervention as a function of a choice to preempt. In their meeting with President Johnson, Eban and Evron explored American willingness to deter Soviet military intervention.[54] Johnson's verbal response was not encouraging, and his letter to Prime Minister Eshkol on 28 May reinforced the low estimate. Decisionmakers were also aware of the impact of their past choices on future contingencies. Regardless of the importance they attached to it, cabinet members were agreed that the likelihood of American support had decreased should Israel now choose preemption.

Within the confines of the alternatives they identified, members of the cabinet reasoned causally. In linking consequences to cause, they received considerable help from prevailing strategic concepts which highlight the importance of great-power support should Israel preempt. Strategic doctrine argues as well that Soviet intervention is contingent not only on Israel's action but also on that of the United States, and decisionmakers considered this causal sequence in their assessment of likely Soviet action. Cabinet members could draw also on the structure they had established only four days earlier to evaluate the consequences of these policy options. They had attributed cause to consequence then and, with some variation, continued to refer to these same causal sequences. Benefiting from past

54. Evidence of the preoccupation with American willingness to deter possible Soviet intervention is provided by Eban who describes a letter sent by Prime Minister Eshkol to President Johnson on the morning of 5 June. Eshkol expressed the hope that everything would be done by the United States to prevent the Soviet Union from enlarging and exploiting the conflict. In transmitting the document to the President, Eban indicated through diplomatic channels that this sentence about the Soviet Union was the most crucial point in the long letter. Eban subsequently explained: "[Johnson] now had the opportunity, which belongs to Presidents of the United States alone, to ensure that a regional conflict was not enlarged by the intervention of a Great Power. This, after all, had been one of the main themes of my talks in Washington on May 25 and 26, and most of President Johnson's communications to us since then had concentrated on the Soviet prospect" (1977:404-405).

experience and prior analysis, most decisionmakers were able to reduce the pervasive uncertainty that is characteristic of the strategic environment without resorting to the classic shortcuts described by many cognitive psychologists. If they did not include all possible consequences, they did not ignore the obvious. Uncertainty, whether structural or not, was not a major obstacle to analytic inference.

Ministers were somewhat more precise in their qualitative estimates of cost and benefit than they had been earlier (Table 6.4). Many of the cost-benefit factors had been identified in the initial decision to explore American intentions, and members of the cabinet had had some time to work with these estimates in response to new and better information. A core group within the cabinet considered cost and benefit along more than one dimension and openly acknowledged the conflict of values and the difficulty of their choice; revision of probability estimates had made choice more rather than less difficult. Most members of the cabinet now considered an Egyptian attack more likely than they had thought four days earlier, but considered American support—if they preempted—much less likely. In the phraseology of the foreign minister, the cabinet debated "[whether] the political advantages of some further diplomatic action [would] outweigh the physical dangers inherent in delay" (1977:365).

TABLE 6.4

PRINCIPAL ESTIMATES OF COST, BENEFIT, AND LIKELIHOOD OF CONSEQUENCES OF OPTIONS, 28 MAY

Attack:	Probability of US support decreases further
	Probability of Soviet intervention low
	Cost to international support increases after initial delay and request for help*
	Benefit to military security increases due to restored power to deter and lower casualties
Wait:	Probability of flotilla, new and increasing
	Benefit to international support increases; even if flotilla fails, Israel gains
	Probability of Arab attack increases after 4th Armored Division committed
	Cost to military security increases because of rapidly deteriorating military situation, loss of deterrent credibility

* Decisionmakers paid particular attention to this dimension.

Different definitions of the problem for decision frequently were reflected in different estimates of cost and benefit and, at the extreme, some decisionmakers who were strongly committed to one particular view of the problem denied value complexity and claimed dominance for their preferred option. Allon and his colleagues from Ahdut Ha'avodah and members of the General Staff defined the problem as defense and an

independent capacity to deter. They placed a lower value on American support, therefore, since it could not contribute to the power to deter, much less to defend. Either directly, through the organization of a flotilla, or indirectly through big-power benevolence should the naval patrol fail, delay could provide no benefit to military security. On the contrary, delay would increase the cost in military casualties if Israel attacked later rather than sooner, and in civilian casualties if Israel were forced to absorb an Arab first strike rather than preempt. A choice to preempt, on the other hand, would increase Israel's capacity to deter future attacks. This group of decisionmakers concentrated on the values of military security and human resources and saw no conflict between them. Preemption would benefit both—it was the dominant strategy and an easy and obvious choice to make. Because international support was largely irrelevant, logically and in fact their calculations were insensitive to an increase in the likelihood of an international effort to break the blockade. Their process of evaluation and choice had the elegance of simplicity and inner consistency even if it was less nuanced and sophisticated than that of their colleagues. They could simplify by ignoring the problem of external intervention during a war and Israel's dependence on external sources of arms supply after a war.

At the other end of the spectrum, Eban and those ministers from the National Religious Party placed primary emphasis on the opening of the Straits with Israel's deterrent reputation a corollary consideration. They considered an imminent Egyptian attack less likely and, because defense was not an immediate problem, they estimated that further delay would not impose a substantial cost to military security. Indeed, Eban consciously discounted the estimates of his military colleagues,[55] arguing that it was their professional business to produce worst-case estimates based on an adversary's capability rather than intent (1977: 371). If the costs of delay were not substantial, the benefits were considerable. The organization of an international naval presence might compel President Nasser to rescind the blockade. Indeed, although he usually acknowledged the complexity of the problem, at times the foreign minister extended the scope of his argument to claim that Israel could not lose by waiting:

> Either the multilateral naval action would collapse, in which case the United States would have little right or cause to restrain Israel's independent action, or if it succeeded, Nasser would for the first time believe that Israel had political backing as well as military strength (1977:372).

55. Eban remembers the explanation he gave to two members of the Labor Alignment in the Knesset on the evening of 29 May: "There was military as well as political logic in choosing our time. Their information was that we had no time to lose and nothing to gain by letting time pass. They painted the catastrophic picture of an Israeli military defeat that might arise out of any further delay. . . . I replied that if we fought in another week or two, our military prospects would be just as good as now, while our political prospect would be better" (1977:387). The foreign minister saw no military cost whatsoever to delay in this presentation of his argument.

A choice to delay would produce benefits for military security, diplomatic support, and would reduce casualties if war could be avoided. A decision to delay was therefore the best on all counts—it was an obvious choice to make. Eban could claim dominance for his preferred option only by ignoring the importance of unilateral action to an independent capacity to deter. One set of decisionmakers simplified by ignoring dependence while another set reduced complexity by ignoring independence.

For all but three of the Mapai ministers, however, matters were not so simple.[56] Typical was the prime minister who began by concentrating on the blockade and then expanded the parameters of the problem to include the concentration of forces. He focused on defense and deterrent capacity but also placed a high value on the support of a major power both during and after military hostilities. In analogy to 1956-1957,[57] the complexity rather than the simplicity of the problem was obvious. If Israel chose to preempt, its capacity to deter would increase and military casualties would decrease, but the loss of international support would be considerable. If the cabinet chose to delay, however, the capacity to deter would suffer considerably, and Israel would risk an Arab first strike. There was no easy choice, and these decisionmakers knew it. After the all-night evaluation of 26-27 May, this group favored preemption.

The prime minister revised his estimate of the cost of preemption, however, when he read President Johnson's warning and Rusk's promise. Once the United States committed its prestige and resources to organizing an international naval flotilla, if Israel chose preemption it would preempt not only Egypt but also the president. If Israel wanted American support, it would have to give the United States time to honor its commitment. For those who valued American support, the increase in their estimate of the diplomatic cost of preemption was indeed logical. And the vast majority of the cabinet considered American diplomatic support important, both in the short and longer term.[58] Responding to "relevant information," by the afternoon of 28 May a pivotal group of decisionmakers had recalculated value and probability to change their preferences. This shift in their calculation of value and probability provides a convincing explanation of the shift in the group choice. The prime minister, along with almost all of his colleagues, chose to trade in "time as currency to secure ultimate

56. Aranne, Eban, and Sapir of Mapai favored delay the night of 27-28 May.

57. Eban suggests that, in giving great weight to President Johnson's warning, "Eshkol was here acting under the influence of the 1957 trauma, which had also haunted me at every stage" (1977:372).

58. An analysis of the arguments of members of the cabinet suggests that 15 of 18 placed a moderate or high value on American support. Eban, at the extreme, considered it most important (1977:375). Only Allon, Carmel, and senior military officers who exercised no formal vote considered American diplomatic support less important. Even then, Allon (1968) argued that he was prepared to "risk American embarrassment," implying that he placed some value on American support.

political support" (Eban, 1977:372). Chapter 9 evaluates the efficiency of their choice.

Performance by members of the cabinet was uneven during the long deliberative process that produced this decision. Most members approximated analytic procedures of estimation in their handling of evidence and indicators, and most could connect consequence to option. Within the constraints imposed by problem diagnosis and limited identification of options, ministers were able to revise their opinions and modify at least some of their assumptions in response to the flow of new information. Evaluation of the two options, however, was less well done by important members within the cabinet. Although none resorted to simplification through single-value calculation, Allon and Eban and those who thought very much like them denied the complexity of their problem and claimed dominance for their preferred option. Several members of the cabinet closely associated with Eshkol, however, did approximate analytic procedures in their evaluation of the consequences of the two options. Even when value conflict was severe, they acknowledged the trade-offs. Although the choice was neither easy nor obvious, the prime minister and some of his colleagues recalculated their estimates and changed their minds, and it is this shift in their preferences which produced the decision to delay.

A process of decision which includes analytic as well as cognitive components is neither expected nor usual when uncertainty and complexity are acute. The three factors of crisis perceptions, group norms, and the quality of strategic argument may help to explain this path to choice by some of the members of Israel's cabinet. Ministers certainly perceived grave threat, and many felt the pressure of time. When warned of "catastrophic" consequences should they choose preemption, most could not ignore the threat to basic values. When military officers reiterated the growing threat of massing Egyptian forces and urged a rapid decision to preempt, most of those listening felt some sense of urgency. Although felt threat and time pressure increased significantly from 23 to 28 May,[59] some members of the cabinet were nevertheless able to approximate analytic procedures in their decision-making activity. In this instance, crisis-induced stress did not appear to constrain analytic performance.

One reason why perceptions of threat and time pressure may have had little impact is the cumulative impact of the processing of choice. Just as members of the cabinet drew on structures and options they had identified earlier, so they drew on estimates they had made and evaluations they had performed before; prior analysis provided a reference point for present processes of revision and updating. Once factors had been identified for

59. McCormick (1975:52, 33) finds a significant increase in threat and time pressure measured by a quantitative content analysis of the public statements of decisionmakers.

evaluation and arguments introduced and considered, they were more difficult to ignore. Some prior sophistication in the analysis of an ongoing decisional problem may be a considerable advantage to decisionmakers working under stress. Prior experience alone, however, cannot explain the difference in the performance of Eshkol and that of Allon or Eban. Eban had been working with the problem for days, and Allon was an experienced analyst of strategic problems.

Probably more important in reducing the impact of a perception of crisis and in improving performance was the predisposition of the prime minister to consider extensively and avoid premature closure. Eshkol generally favored a wide-ranging and open process of deliberation.[60] Under routine circumstances, he encouraged broad participation and a free exchange of opinion. He actively solicited advice and attempted to build consensus from below rather than impose it from above. The gravity of the consequences in a crisis induced Eshkol to be more rather than less careful, more rather than less exhaustive in argument and counterclarification, and more rather than less reluctant to close off debate. On "fateful" matters, the prime minister explained, prudent reflection was especially important (Eshkol, 1967b). Crisis accentuated the deliberative style of the prime minister's leadership and shaped the collective context of decision.

Group procedures, a second factor which may affect the process of choice, reflected this emphasis by Eshkol on free-wheeling discussion and debate. The sometimes sharp disagreements within the cabinet attest to the absence of concurrence-seeking. Even in the Sunday afternoon meeting, after the preferences of their fellow cabinet ministers were clear, Carmel felt free to oppose and Allon to criticize the decision made by an overwhelming majority of the group. There appeared to be few personal or social consequences to dissent in a multiparty coalition. Because dissent was permitted, evaluation of alternatives was more effective as competing arguments were aired and Cabinet ministers listened.

Rather than distorting the process of choice, the collective context reduced the impact of the distortions of individual decisionmakers. Had either Allon or Eban alone been responsible for making the choice, it is more likely that the decision would have been made decisively as part of a dominant strategy. Because each was only one among many, even if each was more persuasive than most, their stronger commitments were diluted by the appraisal and examination of the rest of their colleagues. Although each developed only one side of the argument, the rest of the cabinet heard both, and a critical group amongst them acknowledged the clear conflict of values. With a prime minister who considered himself no more than *primus*

60. When he served as minister of finance before becoming prime minister, one of Eshkol's aides used the phrase "open deliberation" to characterize his style of leadership in decision-making.

inter pares in the chair, group discussion promoted rather than impeded individual analytic processing.[61]

Persuasive argumentation and high quality group procedures are not the only plausible explanations of the processing of the choice to delay. The decision can also be understood as the successful effort of Prime Minister Eshkol, working within a multiparty cabinet, to build a majority coalition in favor of one alternative. Indeed, an explanation of coalition-building seems much more plausible in this case than it did for the earlier cabinet choice of 23 May. The initial deadlock early on the morning of the 27th represents a failure by the leadership to formalize a coalition. The failure can be explained in part by the presence of the prime minister and the foreign minister in opposing coalitions. If both were "essential" members of a winning coalition, each could block the strategy of the other.[62] Eban provides some evidence of his calculation of the relative strengths of the two coalitions when he recalls that, sensing the deep division within the room, he asked for a delay of forty-eight hours (1977:367). Anticipating that he would be unable to build a winning coalition, he tried to stall.

The core elements of the two coalitions, moreover, can be explained partially by party affiliation if not bureaucratic loyalty. Institutional loyalty was not an obvious factor. Although military officials were strongly in favor of preemption, the minister of defense in this government was also the prime minister who represented broader interests. Although senior military officers exerted considerable pressure on individual decision-makers in private discussion and participated as experts in cabinet discussion, they had neither voting privileges nor formal representation. Party affiliation, however, is correlated with membership in opposing coalitions. Ahdut Ha'avodah supported a preemptive strike while Mapam, the Independent Liberals, and the National Religious Party all favored delay.

The evidence is not fully consistent, however, with the explanation. First, there is some evidence that Eshkol could indeed have gotten majority support for preemption at the end of that long night meeting. The obstacle was not quantity but quality. When asked why he did not force a decision, the prime minister explained:

61. Janis (1971:44, 74) argues that, once a preferred option is identified or recommended by a group leader, other alternatives are likely to receive diminished attention and scrutiny. Critics of Eshkol have accused him of indecisiveness (cf., Safran, 1969:314), yet it may be precisely because the prime minister did not make an early and strong commitment to one option that the rest of his cabinet felt free to contest, argue, and debate.

62. Rabin, in his autobiography, recalls that, during the long deadlocked cabinet meeting, the prime minister passed him a note that the members of the National Religious Party were threatening to resign if the cabinet chose pre-emption. After the meeting, in private conversation, Eshkol added that Eban too was prepared to resign if military action were chosen (1979:91). No other participant in the deliberations, however, makes any reference whatsoever to threats of resignation. The prime minister made no note of imminent resignations in his diary, Eban makes no such reference in his autobiography, and no member of the National Religious Party has alluded to an implicit or explicit threat to resign.

> I am certain that it would not have been difficult to achieve a majority, though not a large one, during the night meeting of the Government on May 27 The clarifications in that meeting lasted until the light of day and it did not seem to me that on such a fateful issue one ought to decide in the early hours of the morning. It was better to "sleep on it" and wait (1967c).

Eshkol's calculations are not inconsistent with those of Eban who tried to stall rather than lose. It can be argued, however, that Eshkol at best could have built a minimum winning coalition, a slim majority, without the support of his foreign minister. Indeed, if Eban is considered an "essential" member, not even a minimum winning coalition was possible. While the foreign minister was essential, however, to any choice of diplomatic action, neither his skills nor his influence were essential to the implementation of a strategy of preemption; Eban was not necessary to a majority coalition in favor of military action. The prime minister could have built a minimum coalition, but deliberately chose not to do so.

More important, the behavior of the Mapai ministers is anomalous in an explanation of coalition-building. Mapai was the pivotal party in the broader coalition cabinet; it held 9 of the 18 ministries. Explanations of coalition-building expect the pivotal party to secure the support of one or another additional parties to assure domination of the outcome. This was not, however, what happened. Contrary to expectation, the critical element in any winning coalition, Mapai, split as its members voted 6 to 3 in the initial decisoin. While party affiliation is related to the preferences of members of the smaller parties, this is not so for members of the dominant party. And members of the pivotal party behaved contrary to the expectation of a hypothesis of coalition-building.

Even more embarrassing, coalition-building cannot explain why six Mapai ministers, as well as one from Ahdut Ha'avodah, changed their vote from Sunday morning to Sunday afternoon. Any decision, by virtue of the fact that it gets majority support, logically can be seen as the product of coalition-building. The power of the explanation, however, lies in its interpretation of the processes that produced the majority. If the explanation is valid, there must be some evidence of strategy modification or compensatory side-payments by those close to achieving a majority coalition. There is no such evidence whatsoever. Those in support of delay made no concessions to those opposed; they neither modified their strategy to entice others to join nor did they offer any kind of side-payment. An explanation of the processes that produced the shift—or the successful construction of a coalition—cannot be developed from the premises of coalition-building.

Finally, strategic concepts had a considerable impact on the processing of choice. Indeed, the options strongly promoted by Eban and Allon each could be deduced from strategic arguments for preemption and the

importance of great-power support. Because both options under discussion were consistent with strategic concepts, an explanation of the choice between them must include the processes cabinet members used. The quality of strategic logic, however, may help explain the strengths and weaknesses in the making of the decision to delay.

Those who were most active in the discussions—Eban, Rabin, Eshkol—approximated analytic procedures in identifying the consequences of the two options and in estimating their likelihood. They may have done so in part because they could draw on a relatively complete list of indicators and a coherent discussion of the obvious consequences of preemption and delay to seek great-power support. Strategic concepts were of some help to decisionmakers in organizing processes of estimation and evaluation. While the impact of strategic arguments was not determining, even those who denied value complexity at least had to deal with the other side of the argument.

Although strategic concepts did help to promote analytic performance of some decision-making tasks, their impact was not all benign. The principal obstacle to higher quality decision-making was not parochial interests and institutional loyalties, or the necessity to compromise with fellow group members, or the stress induced by crisis. The prime minister and some of his colleagues managed all these fairly well. They were possibly more proficient technically in this decision than they had been when they made their earlier choice to delay. The consequences of ambiguous problem definition and imprecision in the application of central concepts, however, now became apparent. Ambiguity and imprecision were consistent with important areas of incompleteness and incoherence in strategic arguments.

In defining and developing *casus belli*, strategic concepts had paid no explicit attention to the interconnectedness among interests established as worthy of war. Nor had strategic doctrine examined the relationship between different kinds of challenges and different kinds of responses. Deterrence failure in stages had not been seriously considered. These critical areas of incompleteness and incoherence in strategic arguments were reflected in competing problem diagnoses, divergent estimates of Egyptian intentions, and the ensuing policy confusion. Members of the cabinet were less constrained by biological or psychological processes than by sloppy argument. They were trapped by the poor quality of their logic.

When the cabinet decided on 23 May "to explore the position of the United States," it did not make precise exactly what it wished the United States to do and why. Ministers did not specify whether they wished the United States to support Israel's right to military action to restore deterrence, as Washington had promised to do in 1957, or whether they wanted the United States to fulfill its commitments as a leading maritime

power. Although both were plausible, each flowed logically from a different objective which in turn created a different context for decision. Either decisionmakers were trying to restore freedom of shipping in the Gulf of Aqaba—which they had repeatedly defined as a vital national interest—or they were trying to reconstruct Israel's deterrent reputation which President Nasser had shattered so successfully by imposing a blockade. Although the blockade figured in both, it could not simultaneously be the symptom and the core of the problem. Although related, the two problems were analytically distinct, and each had quite different policy implications.

From their failure to make this initial logical distinction, all else followed. Without completely understanding the consequences, the exploration of the American position was translated into a solicitation of a promise from President Johnson to make every effort to open the Straits. When they exacted this promise, decisionmakers automatically decreased the likelihood of American support for unilateral action. When a few days later Johnson warned and Rusk promised, as Eban noted, "an Israeli government receiving such a message had very few options" (1977:370). This was partly the case because decisionmakers increased the cost of the other alternative by their own action. It is not unlikely that the United States would have urged restraint on Israel no matter what Israel's policymakers would have proposed. Indeed, President Johnson did so in his first official request to Eshkol after Nasser closed the Straits. Nevertheless, the active involvement of Israel's decisionmakers in soliciting an American commitment to try to lift the blockade further increased the cost of any alternative but delay. Without fully realizing it, decisionmakers preempted their choice of preemption.

Encouraging the United States to defeat the blockade would not have been illogical if most members of the cabinet had considered the blockade to be the central issue. Indeed, an argument can be made that this should have been their primary focus. This, however, was not the case. The substitution of deterrence as value for deterrence as strategy and the consequent treatment of the blockade as symptom rather than substance led most decisionmakers to concentrate on restoring the credibility of deterrence. Confusion was compounded when some within the cabinet shifted their attention to the massing of Egyptian troops and focused almost exclusively on defense. Although the promised flotilla did not address either of these issues, it was now a necessary precursor to American support of the independent action which would address both. The logical paradox was apparent: given the estimates of cost, benefit, and likelihood that decisionmakers made when they considered deterrence and defense, the analytic choice was the logically irrelevant option.

The paradox would disappear only if President Nasser did not attack and the flotilla did not succeed. The dilemma created by faulty logic could be resolved only by the action of others. In the absence of logic, Israel's decisionmakers needed luck.

chapter **7**

The Decision to Preempt

4 June: The Decision to Preempt

The cabinet, just before it concluded its meeting on 28 May, charged the prime minister with the responsibility of informing the nation of its decision to delay. That evening, Eshkol broadcast to the country and then met with the General Staff. Their meeting was tense and acrimonious, but the broadcast was a political disaster.

The prime minister, with the help of Eban and Galili, drafted the announcement of the decision for public broadcast at 2030 hours. His statement emphasized the continuation of the high level of military preparedness and Israel's readiness to act in self-defense. At the same time, Eshkol continued, the government had heard a report from the foreign minister

> on the increasing readiness in the international sphere to work, without delay, towards the speedy cancellation of the embargo. [The Government therefore, had] laid down principles for the continuation of political activities. Lines of action have also been adopted for the removal of military concentrations from Israel's southern border (Eshkol, 1967f, and Eban, 1977:374).

The message of readiness for defense and decision for delay was lost, however, in a stumbling and hesitant delivery by an exhausted prime minister. Eshkol's stammering and ineffective presentation created a public image of hesitation and confusion and precipitated a serious crisis of confidence in his capacity for political leadership.

The prime minister, at the insistence of the chief of staff, then proceeded to General Staff Headquarters to inform senior military officers of the cabinet's decision. Military commanders had been expecting an authorization to attack for the last two days and were unprepared for the restraining order. Eshkol again explained the reasons for the cabinet's decision and then asked for their free expression of opinion: "You can and should say anything you like to me. Talk as if you were out of uniform" (1967b).

The generals took the prime minister at his word and let loose a storm of criticism. Yariv reported that the Egyptian army had moved from defensive

to offensive deployment and emphasized the increasing danger of an Egyptian first strike. Ariel Sharon, Matityahu Peled,[1] and Avraham Yaffe told the prime minister that the crisis could not be resolved through international diplomacy; military action was the only alternative. Further delay would expose Israel to an Egyptian preemptive attack which would deprive the army of the advantage of tactical surprise, increase the damage to the air force, and increase the number of civilian and military casualties (Gavish, 1971, Rabin, 1979:92, and Luttwak and Horowitz, 1975:223). General Sharon estimated that delay could cost Israel "thousands of dead" while General Yaffe argued that Israel could face "catastrophe" (Sharon 1973b, Bar-Lev, 1973b and Weizman, 1976:213-214). Allon, Rabin, and Bar-Lev did not join the chorus of criticism, but neither did they defend the decision made by the cabinet.

The criticism of the military commanders was no longer premised on the damage to Israel's deterrent reputation but on the imperative to defend. They urged preemption not only by claiming that it was dominant as a strategy but also by emphasizing the multiplying military cost of delay. The prime minister defended the decision to delay by drawing an analogy; he argued that negotiations must continue so that the postwar diplomatic isolation which Israel had suffered in 1957 would be avoided. Eshkol left the meeting unconvinced by the estimates of the military consequences while the General Staff rejected his analysis of the benefit of delay.[2] The sharp conflict in values was reflected in the tempestuous meeting between the prime minister and his military advisers. From that day on, the General Staff would exert concerted pressure for a choice to preempt.[3]

The following day the leaders of Israel and Egypt each spoke to their parliaments. In his speech to the Knesset, the prime minister (1967a) added little to what he had said the night before. President Nasser, however, speaking to Egypt's National Assembly, stimulated a redefinition of the problem for decision by providing new evidence on Egypt's intentions:

> " Just as we have been able to restore the pre-1956 situation, we shall certainly, with God's help, be able to restore the pre-1948 situation. Today we are ready for a confrontation, we are ready to raise the whole question of Palestine. Today it is not a question of the Gulf of Aqaba, nor of the Straits of

1. General Peled was later to revise his explanation of Egyptian intent and argue that hostilities erupted through mutual miscalculation. At the time, however, he, like almost all the other senior commanders, considered an Egyptian first strike likely.

2. Eban, admittedly with some self-interest, reports that, after the prime minister had listened to the "tenacious" lecture of the senior military officers, he shrugged his shoulders and said: "You are exaggerating quite a lot" (1977:371). Other analysts have described the prime minister as shaken by the stormy encounter (Ben-Elissar and Schiff, 1967:95-97, cf. Rabin, 1979:92).

3. Not only the General Staff pressed the cabinet for permission to preempt. The respected military correspondent, Ze'ev Schiff of the independent daily *Ha'aretz*, wrote on 29 May of missed tactical opportunities before the Egyptian army was fully deployed and urged immediate military action.

> Tiran, nor of the Emergency Force. It is a question of the rights of the people of Palestine, of the attack on Palestine in 1948, carried out with the aid of Britain and America. They want to confine the issue to the Straits of Tiran, U.N.E.F., and the right of passage. We are not afraid of the United States and its threats, of Britain and its threats or of the entire Western world and its partiality to Israel. We want the full and undiminished rights of the people of Palestine (1967c).

Egypt's president was explicit that the problem was neither the blockade nor the removal of the international peace-keeping force. Moreover, he was no longer prepared to permit Israel's decisionmakers to so delimit their problem; the challenge was posed in the broadest possible terms.[4] As Prime Minister Eshkol defended a delay to determine whether international maritime powers would translate words into actions, President Nasser underlined the futility of an international effort to reopen the Straits. Even if the maritime powers should organize, they could neither compel Egypt to lift the blockade nor deter an attempt to restore the pre-1948 geopolitical realities.

Information about the probability of the flotilla, moreover, was somewhat inconclusive. Ambassador Harman had cabled on 28 May that he had been told by Walt Rostow, the national security adviser in the White House, that the president's mood was somber as he could see no solution to the crisis (Eban, 1977:383). At noon on 30 May, Eban received a second message from Harman which reported on a conversation with the State Department the previous evening. A declaration of the maritime powers was being drafted for signature by other states, and the United States and Britain were contacting some eighty capitals in an effort to obtain international support of the intention to enforce freedom of passage in the Straits. The statement would contain no threat of force but would provide a sufficient basis for the signatories to act. The United States had again sent a message to the Soviet Union underlining American concern about freedom of passage in the international waters of the Straits of Tiran. A joint resolution of both houses was now being prepared in Congress and, in the meantime, Israel would be offered economic aid to compensate for the cost of prolonged mobilization (Eban, 1977:383).

There were also contradictory reports. Information from Ottawa

4. President Nasser's speech was in marked contrast to his press conference broadcast live over Cairo Radio the day before. While he termed "the mere existence of Israel . . . an aggression" and emphasized the territorial character of the Straits of Tiran and the illegal occupation by Israel of Eilat in 1949, he placed the responsibility for the recovery of Palestinian rights on the Palestinians rather than on Egypt: "We shall wait patiently for a year, ten years, or even more, for the Palestinian people to recover their rights. " He also referred to possible negotiations through the Joint Armistice Commission set up by the Armistice Agreement in 1949 which was still acceptable to Egypt. On the other hand, he implied that Egypt was no longer prepared to absorb the first blow: " if they [Israel] want to try war, I tell them they are welcome. Naturally, in doing this we choose the place and the time in which we say 'welcome' " (1967d:549).

suggested that Canada's participation in the proposed naval patrol was very unlikely. And Robert Anderson, a personal emissary of President Johnson, was meeting in an unofficial capacity with President Nasser in Cairo. Eban worried that a face-saving compromise would be negotiated which would permit free passage to all ships other than those flying Israel's flag.[5] Eban's definition of the problem for decision edged closer to that of the majority of his cabinet colleagues: "For us, the importance of denying Nasser political and psychological victory had become *no less important* than the concrete interest involved in the issue of navigation" (1977:384, emphasis added). A psychological or political victory would compromise Israel's capacity to deter.

To reduce the growing uncertainty about the prospects of the flotilla, Eshkol and Eban decided to send Meir Amit, the head of Mossad (Special Services), to Washington. As Amit later recalled:

> The American intentions were not clear, better stated, there was not sufficient light. Things are said for publication but in direct personal contact you can arrive at the basis, the truth. I believed I could fathom their real intentions (1973).

An assessment of the likelihood of international maritime action was not the only purpose:

> A second aim of my mission was to make the Americans realize, in direct contact, the seriousness of the situation, to make them see that Israel had been forced into a situation where there was no way out and hear their reactions (1973).

A major purpose of Amit's trip was the exploration of the likely American attitude should Israel choose unilateral military action.

The prime minister attempted not only to assess but also to increase the probability of international maritime action. He asked Eban to draft a reply to President Johnson's letter of 28 May and to hold a press conference to emphasize publicly the limits of Israel's capacity to wait. The foreign minister spoke to the press at noon that day and warned that, if international action were not forthcoming, Israel reserved the right of self-defense: "Normal rationality suggesets a policy: alone if we must, with others if we can." He argued that the blockade and the concentration of Egyptian troops must be rescinded "in the shortest possible time" and explained that "while we recognize the risks of action, we also understand the

5. The lead article on the front page of *The New York Times* of 30 May suggested that a compromise plan was being prepared in Washington "under which the Gulf of Aqaba would be opened immediately to all ships except those flying the Israeli flag." Although subsequently denied at President Johnson's request, versions of this story received wide currency in Washington. Eban, in writing of the Anderson mission, considered it "probable that this initiative would aim at a face-saving compromise—and that the face to be saved would be Nasser's, not Israel's" (1977:383-384).

dangers of inaction" (1967). That same afternoon, in his reply to the president's letter drafted by Eban, the prime minister reminded Johnson of his commitment to take "any and all measures" to open the Straits and emphasized Israel's determination not to wait too long:

> I feel that I must make it clear in all candour that the continuation of this position for any considerable time is out of the question. It is crucial that the international naval escort should move through the Straits within a week or two (Foreign Ministry, cited by Brecher, 1975:413).

After their choice to delay, Eshkol and Eban both felt and expressed an increased sense of urgency.

This sense of urgency and threat increased dramatically when Israel's decisionmakers heard the startling and unexpected news, broadcast by Radio Cairo shortly after noon, that King Hussein was meeting in Cairo with President Nasser. Two hours later, it broadcast live the signing of a defense pact between Egypt and Jordan. The text of the agreement, similar to that which already existed between Syria and Egypt,[6] was read over the air. Article 7 in particular stipulated that "in the event of military operations, the Chief of Staff of the Armed Forces of the United Arab Republic shall assume command of operations in both states" (*International Documents on Palestine*, 1970:569). This provision was activated immediately. President Nasser dispatched Egypt's assistant chief of staff, General Riad, to Amman to direct the military operations of the United Arab Command effective 1 June. Radio Cairo also reported the congratulatory telephone call of President Aref of Iraq who expressed his support for the agreement and promised to provide whatever assistance he could. King Hussein publicly requested President Aref to send Iraqi troops to Jordan and the president agreed.

Israel's leaders were stunned by the joint defense pact. In view of the unremitting hostility and continuous propaganda attacks by President Nasser on King Hussein, such an agreement was not considered at all likely. Israel did not expect it and, indeed, military decisionmakers had prepared no contingency plans to defend against it (Eban, 1977:380). Although decisionmakers had not anticipated a joint Arab military command, they had little difficulty in interpreting its significance. Israel had repeatedly defined the stationing of other Arab forces on the West Bank of the Jordan as a *casus belli*. Identified by strategic concepts, the Jordanian-Egyptian pact was considered a particularly valid indicator of

6. The Syrian-Egyptian defense pact was signed in November 1966. When King Hussein met with President Nasser in Cairo, he recalls that "I was so anxious to reach an agreement that I contented myself with a rapid perusal of the text [of the Egyptian-Syrian defense pact] and said to Nasser: 'Give me another copy; let us replace the word Syria by the word Jordan and the matter will be arranged' " (1969).

the likelihood of an Arab attack,[7] and decisionmakers acknowledged miscalculation almost immediately. There was no attempt to deny or depress the significance of this new and discrepant information; it would have been extraordinarily difficult to do so. Leaders quickly jettisoned the prevailing hypothesis that Arab unity was insufficient to permit an attack (H_9 to H_{10}) and drastically updated their estimate of the likelihood of joint Arab military action. Eban, for example, argued:

> The Egyptian-Jordanian agreement made it plain that we would probably have to fight on three fronts. Arab unity, which seemed an unsubstantial mirage a few days earlier, was now becoming impressive (1977:381).

Not only Israel's strategic doctrine but also Egypt's analysts attached great importance to the establishment of a united front. President Nasser had argued repeatedly, for example, that one explanation of the poor performance of the Egyptian army in 1956 was the absence of coordinated military support from other Arab states and insisted that a prior condition for a renewed attack against Israel was military and political cooperation among front-line states.[8] The strategic analysis of Egypt and Israel converged: a necessary condition of attack for Egypt was considered a strong diagnostic indicator by Israel.

This increase in the estimate of an Arab attack produced some convergence among those who had disagreed in their diagnosis of the problem for decision. Eban now considered an attack from the West Bank probable and an Egyptian attempt to seize Eilat a credible threat (1977:381, 383). The challenge to deterrence had grown in scope, and the problem was defense. Allon provided the most detailed explanation of the impact of cumulative deterrence failure on the definition of the challenge. He subsequently wrote:

> It seems that as from mid-May 1967 every possible Rubicon was crossed by the Governments of Egypt, Jordan, Syria and Iraq. And having crossed, they had no way out: a military confrontation had to take place. Impressive Egyptian forces were massed in the Sinai peninsula. The Straits of Tiran were closed to Israeli shipping. Jordan entered into an aggressive military alliance with Egypt, throwing her borders open to Egyptian and Iraqi troops and putting her own military forces under Egyptian command. The Egyptian President admitted, with astonishing frankness, that all these preparations were directed

7. Eban considered this increase in Arab military capabilities through cooperation in multi-front planning a more important indicator than President Nasser's strong speech the day before: "Scarcely had Nasser's tirade been digested in Jerusalem than we suffered another and more decisive blow to peace" (1977:380).

8. In an interview a year earlier, President Nasser argued that "We could annihilate Israel in twelve days were the Arabs to form a united front. Any attack on Israel from the south is not possible from a military point of view. Israel can be attacked only from the territory of Jordan and Syria" (1966).

> towards a war of extermination against Israel. The enemy's openly declared intention of launching an attack from the Sinai peninsula and the concentration of offensive forces therein was tantamount to the first phase of an attack. Once these forces had been marshalled, air, land and up to a point naval initiative by Egypt and her allies became an imminent possibility. The gravity of the situation increased when it became evident that Arab air and land offensives might be launched simultaneously on three fronts: the Egyptian, Jordanian and Syrian. When Egyptian and Iraqi troops were integrated into the Jordanian geo-strategical set-up on the West Bank, the die was virtually cast (1970:76, 79).

Indicators of capability and intent converged, and those decisionmakers who had considered an Arab attack only possible now considered it probable. Eban and Allon were agreed on the problem for decision.

In response to his revised estimate of the likelihood of an Arab attack, Eban decided to reopen the decision of a two-week delay in military action. The next day, 31 May, he informed the heads of departments in the Foreign Ministry that prevailing assumptions must be reexamined and revised and the continuing dialogue with the United States modified accordingly (1977:381). Eban's decision is striking in that such behavior is neither usual nor expected of decisionmakers under stress. Indeed, his first reaction to a dramatic increase in probability estimates in response to strongly discrepant information is more typical. On learning of Hussein's mission to Cairo, Eban concluded that "Hussein had made it *certain* that war would break out" (1977:380, emphasis added). This is the only categorical estimate the foreign minister offered during the decisional sequence. By implication, he short-circuited the process of decision, chose quickly, and defended categorically a preemptive military strike should the Arab states not attack first. After this first, almost instinctive response, however, Eban did not close but reopened the process of decision. Despite his earlier commitment to international action, he instructed his staff to initiate a thorough reexamination of their assumptions and premises.[9]

Eban's reassessment was eased considerably by evidence of the declining probability of concerted international action. The signals were subtle but suggestive. Although the State Department had reassured the embassy that the organization of the flotilla was proceeding and that letters had been sent to twenty-five governments requesting their signature on the declaration, Israel's diplomats could not have failed to observe the change from the original eighty capitals proposed only four days earlier. On 31 May, the president's national security adviser asked Evron to come to the White

9. Eban reports a similar reaction from the deputy director general of the Foreign Ministry: "In a telephone conversation . Arthur Lourie told me that senior officials would respond willingly to a suggestion that we reopen our minds and hearts" (1977:384). Again, this is not the theoretical expectation of the bureaucratic politics explanation of decision-making.

House to discuss Eshkol's letter which President Johnson had now read. The president was disturbed by Eshkol's reference to his "assurances that the United States would take any and all measures to open the Straits of Tiran to international shipping. " This could not be an accurate report of what he had told Eban, the president insisted, since such a commitment was not within the constitutional powers of the presidency. Rather, Johnson insisted, he had stressed that he would make every effort within his constitutional authority. Evron replied that the phraseology drew on Ambassador Harman's notes of the conversation and on the State Department summary forwarded to Ambassador Barbour. These documents, Evron added, had been critically important in Israel's decision to delay military action. The minister concluded with a warning of the consequences of even the appearance of a weakened American commitment.[10] Although the quarrel about terminology was no more than a quibble, the quibble signaled to Israel's decisionmakers a decrease in American commitment.

American officials also were inconsistent about the necessary role of the United Nations in any international maritime action. Secretary of State Rusk reportedly told the International Relations Committee of the House of Representatives that the United States would not act unilaterally but only within the framework of the United Nations. And in New York, Ambassador Goldberg introduced a draft resolution in the Security Council to "insure a cooling off period . without prejudice to the ultimate rights or claims of any party"[11] Eugene Rostow at the State Department, however, told Ambassador Harman that the President was trying to get the declaration signed as quickly as possible and that the necessary consultations with Congress had already begun—the Secretary of State was testifying before the International Relations Committee of the House and the Foreign Relations Committee of the Senate on two successive days. He added that the United States would make every effort to terminate the proceedings in the Security Council as quickly as possible.

Before he began meeting with his senior advisers late in the afternoon of 1 June, Eban received three additional pieces of information relevant to his review. First, Amit, reporting on his initial discussions in Washington, reflected the contradictory evidence in his conclusion:

10. Bar Zohar (1970:160) and Quandt (1977:56) report this conversation between Rostow and Evron. The president was somewhat inconsistent in his objection to Eshkol's use of terminology. The State Department summary, transmitted to Eshkol and Eban, referred to "every possible effort" and Eban used such language in his presentation to the cabinet. Johnson recalled in his autobiography, however, that he spoke of "any and all possible measures" (1971:293), and Eban uses this latter version in his autobiographical account (1977:358).

11. Ambassador Goldberg's explanation of vote was carried in full in *The New York Times*, 3 June 1967. The full text of the draft Security Council resolution is found in United Nations Document S/7916/Rev. 1, dated 1 June 1967.

> We should still wait for a few days in order to give a chance for the operation of forcing the Straits. From hints and scattered hints the maritime-force project is running into heavier water every hour (cited by Eban, 1977:384).

Eban later revealed that Amit had added: "There is a growing chance for American political backing if we act on our own" (Eban, 1972). While Amit considered the flotilla increasingly unlikely and American support of unilateral action by Israel increasingly likely, he nevertheless recommended further delay of at least a few days.

The foreign minister also was told of a report coming over the international wire services of a reply by Secretary of State Rusk to a journalist's question. When asked whether the United States would make an effort to restrain Israel from precipitate action, he replied tersely: "I don't think it is our business to restrain anyone" (cited by Eban, 1977:385). Finally, Eban received a summary of the evaluation of an American, well-connected to the administration, whom the foreign minister does not identify. The American understood that "time was running out and that it was a matter of days or even hours." But, "if the measures being taken by the United States prove ineffective, the United States would now back Israel" (cited by Eban, 1977:385). While evidence from public sources was ambiguous, that from private sources converged: the probability of American support for unilateral military action by Israel was related inversely to the likelihood of effective international action, and the probability of the maritime patrol was decreasing.

The interpretation of the ambiguous and often contradictory public and private evidence, however, was not easy or unimportant, and decision-makers were careful. When the meeting began, Eban requested a "meticulous scrutiny" of all cables and communications with the United States of the last forty-eight hours. The scrutiny revealed that not since 28 May had a senior American official requested that Israel either refrain from military action or rely on international solutions. Searching for what was absent rather than what was present, decisionmakers found what they were not looking for; what was omitted was more significant than what was committed.

The foreign minister concluded that the United States was now less confident about the success of international action and therefore less likely to restrain Israel (1977:385). On the contrary, unilateral military action by Israel now promised some diplomatic benefit: those who would be relieved of an increasingly unwelcome responsibility would extend support to Israel. Indeed, Eban noted, some in the military establishment suspected that the United States now preferred to "unleash Israel" since independent action would cause fewer complications than an international armada which would be resisted by Egypt and the Soviet Union. As the probability

of a flotilla decreased, some cost as well as benefit became apparent to the foreign minister. When the patrol became less likely, it became less desirable; his preferences were not independent of his expectations.[12] Should Israel now choose preemption, Eban continued, the Soviet Union was not likely to intervene in the impending conflict and "the shorter the clash the less likely Soviet intervention would be" (1977:393).

Eban and his advisers also increased their estimates of the probability and cost of an Arab attack. Advance units of Iraq's army were reported to have reached Egypt the day before, and others were allegedly on their way to Syria and Jordan (Yonah, 1968:90). Even more significant in changing the earlier estimate of attack was the Egyptian-Jordanian pact. By encircling Israel on all fronts, it made an attack more likely and more dangerous. Officials of the Foreign Ministry also reported the disquieting news from Ambassador Eytan in Paris that French customs and transport authorities were causing some difficulty with landing rights and clearance of planes loading military equipment for Israel (Bar-Zohar, 1970:163). While the diplomatic cost of preemption had diminished, the military cost of delay had increased. Eban decided to inform Rabin and Yariv of the change in his evaluation.

Accompanied by his director-general, Eban crossed the compound to meet with the chief of staff and the director of Military Intelligence. In a few brief sentences, he explained the change in his preference: there was little further to be gained by delay; the need to withstand Arab aggression was paramount; and any decision should now be reached on military grounds alone. There were no longer any political inhibitions to effective military resistance (Eban, 1977:386). Even for the foreign minister, traditionally concerned and constitutionally responsible for international reaction, there was no longer a conflict of values. A strategy of preemption was dominant.

On his way back to his office, Eban met the prime minister and told him of his meeting with the army's leaders. Under intense military[13] and political pressure, Eshkol greeted the news with undisguised relief. The prolonged mobilization and delay, compounded by Eshkol's uninspiring speech three days earlier, had by now created a grave internal political crisis which overlay the security problem. The intense political bargaining of the last two days had culminated in an explosive demand for a major change in

12. When decisionmakers engage in wishful thinking, they inflate the probability of what they want. Their expectations are influenced by their values. In a related process, Eban deflated his value estimate in response to a decrease in his estimate of probability. This was the first time that the foreign minister considered that a flotilla could have negative as well as positive consequences.

13. Eban recalls that the prime minister told him "of tense debates that he was having with senior officers concerning the grave implications of any further waiting" (1977:386). Since 28 May, after the stormy meeting with the General Staff, military leaders exerted intense pressure on the prime minister to change his decision.

the leadership. Common to all the suggestions and proposals was the attempt to remove Eshkol from exclusive responsibility for defense. The critical factor was the threat by the National Religious Party, a member of the governing coalition, to defect if the cabinet were not broadened to include opposition representatives. Their defection would have left the prime minister with the slimmest of majorities in the Knesset. To accommodate the demand of his coalition partner, Eshkol was forced to pay with the defense portfolio. Paradoxically, the prime minister made this substantial payment for an oversized coalition he was no longer certain to control. After an arduous process of negotiation, Eshkol finally agreed on 1 June to form an all-party cabinet which would include Moshe Dayan as minister of defense. More curiously, Eshkol's junior coalition partner supported the inclusion of those whose policy preferences they opposed but whose judgment they trusted.[14] The addition of Begin and Dayan to the cabinet inevitably would reduce the weight of those who, like the NRP, opposed preemptive action.

Dayan's appointment as minister of defense relieved the political and military pressure on the prime minister and permitted decisionmakers to return to consideration of their security problem.[15] The cabinet met late the evening of 1 June to ratify the political changes of the last few days and formally approve the formation of a new government. Dayan and the new minister-designate without portfolio, Menachem Begin, joined the meeting, and the cabinet began its first review of new information in four days.[16] The chief of staff briefed the ministers on Arab military capabilities and troop deployments and observed that, had Israel attacked five days earlier, it would have done so with a marked advantage in its favor (Dayan,

14. It can be suggested that analytic processing may be politically expensive. The prolonged evaluation of the consequences of options and the scrupulous attention to evidence must have contributed to a public image of hesitation, caution, and indecision. It was the image of indecision rather than the substance of policy which provoked the demand for an all-party government.

15. Eshkol's schedule is evidence of his preoccupation with the domestic political crisis. Of his fourteen appointments on 31 May, none was devoted to security matters, and on 1 June, of his twenty-four appointments, only three were devoted to defense– and one was a courtesy call on General Bar-Lev, the newly appointed deputy chief of staff. By 2 June, however, of thirteen appointments, eight were devoted to defense (Eshkol, 1967d:358). Even the army was not immune. In the course of the political negotiations, it was suggested at one time that Dayan become commander of the southern front with General Gavish as his deputy. The proposal preoccupied both Southern Command and the chief of staff. Only after the formation of the wall-to-wall cabinet did political and military decisionmakers concentrate exclusively on the security problem. Although the domestic process of coalition formation is of no direct interest here, it did distract the principal decisionmakers and postpone processes of evaluation and choice. For a detailed examination of the processes of internal bargaining, see Nakdimon, 1968 and Wagner, 1974.

16. The cabinet had met the evening before, but it had concentrated exclusively on domestic issues. The third new member of the cabinet, J. Saphir of the Liberal faction of Gahal, did not join the meeting of the cabinet until the next day. Dayan represented Rafi, the party of Ben-Gurion after his split with Mapai.

1976:271). The foreign minister's review of the history and current status of the international flotilla was followed by a general, if somewhat inconclusive, discussion. Dayan cut through the discussion to argue that the cabinet could no longer avoid a consideration of the logical consequences of the available options. Should the choice be further delay, the closure of the Straits would become a *fait accompli*; in that case, half the reserves should be demobilized, and the remainder must "dig in." Should the cabinet prefer preemption, then the choice must be made immediately (Teveth, 1972:568-569). Dayan argued implicitly that the earlier decision must be reconsidered and reconsidered quickly. A decision to delay a decision much longer—or no decision—was not an acceptable option.[17]

Discussion lasted only until after midnight since Dayan insisted that he had to familiarize himself with current plans before he could present concrete proposals (1976:271). The new defense minister was in fact formalizing a process which was already underway. As the likelihood of effective international action decreased, qualified decisionmakers turned their attention to refining and finalizing the military option. The cabinet decided to postpone further discussion until the morning when they would meet with senior officers at General Staff Headquarters.

Before the morning meeting of the Ministerial Committee of Defense, Dayan met briefly with the chief of staff. The committee, which began its deliberations at 0915, stayed in session for over two hours and, at the prime minister's request, Allon, Dayan, Eban, and Rabin and their advisers remained for another hour of informal—and freer—discussion. General Yariv began the formal meeting with an hour-long intelligence presentation in which he described "how the enemy from the south concentrated, day after day, his battalions, and positioned seven divisions, with powerful armour" (cited by Begin, 1972). Although Jordanian participation in a coordinated attack was considered possible rather than probable, Military Intelligence emphasized the growing danger of a surprise attack. Despite the possibility of a multi-front war, the General Staff was confident of victory; military defeat was not a possible outcome of a choice to preempt (Begin, 1972). Nevertheless, senior officers argued forcefully that the choice must be made immediately. As Begin, participating in a Ministerial Committee meeting for the first time, recalled:

> The commanders revealed their basic concern that every additional day without a decision would increase our losses when the hour of implementation arrived (1972).

17. Bitan (1968), a deputy director-general of the Foreign Ministry, later said that Dayan's principal contribution was to force the cabinet to make a decision. A reexamination of the earlier decision was likely anyway, however, once Eban spoke with the chief of staff and the prime minister. Dayan did increase the sense of urgency, however, and put into sharp relief the military consequences of delay.

The cost of delay was not defeat but an increase in casualties in an army and country short of men.

The chief of staff presented a broad outline of the military's plans. Generally, the army would concentrate on the defeat of the Egyptian forces in Sinai; capture of Sharm el-Shaykh was a secondary objective. Dayan did not encourage more detailed discussion of military options,[18] but rather offered three general arguments to support the broad plans outlined by the General Staff. First, if the choice were to be preemption, then delay was becoming more costly every day as the Egyptian army fortified its positions in the desert. Second, military hostilities, if successful, would be short because of the inevitable external pressure to cease fire. Within that short period, the I.D.F had to defeat Egyptian armed forces if the political and military battles were not to end in failure. Third, Dayan concluded, the first stage must concentrate on the capture of central Sinai to rout the Egyptian army and only if it were successful could the I.D.F begin action in the southern desert (1976:271). Time was expensive, valuable, and short, and operational plans had to reflect military priorities linked to longer-term political objectives.

At the smaller meeting that followed, Dayan openly urged an immediate preemptive strike. The cabinet was scheduled to meet two days later on 4 June and, if it were to authorize military action, Israel could and should strike the next morning. Allon of course supported military action but challenged Dayan's emphasis on central Sinai as the principal military target. Israel's future capacity to deter would benefit if its forces advanced as close to the Canal as possible. Overlooking the waterway, Israel could forestall any future attempt to blockade the Straits by threatening to disrupt navigation through the Canal. Dayan objected strongly:

> I said that our proximity and threat to the Suez Canal would be a serious error. It would affect the interests of powerful forces in the world and turn some of our friends against us. We should certainly not adopt as a political tool the threat of its closure (1976:271).

In his evaluation of military options, Dayan consistently emphasized international political consequences.[19]

18. Dayan had not yet had adequate time for discussion privately with senior military commanders. He also, however, had reservations about the presentation by military officers which he may have been reluctant to express in open forum. Dayan wrote: "it seemed to me that the issues—time and our operational plans—were not presented in the most appropriate way [by the General Staff]" (1976:271). This may explain his emphasis on general principles rather than specifics.

19. Dayan objected to the seizure of the Canal as early as 26 May, when he was still officially a private citizen. He met with Amit to make explicit "my objections to the present operational plans and my proposed changes as follows. . The campaign would take in all Egyptian forces in Sinai, including airfields, armor, and other formations lying between Israel and Egypt. The aim of the campaign should be to meet and destroy Egypt's military strength. This should be confined to the eastern half of the Sinai. I rejected the assumption that seizure of territory and holding onto it could be used as a bargaining card in exchange for freedom

Dayan's strong advocacy of a preemptive strike suggests that he made up his mind before examining the information provided by his staff. His problem for decision was not whether to attack or delay but a much narrower one of the optimal military option. At the end of the meeting, Eban remained unenthusiastic about military action while the prime minister expressed no formal opinion (Dayan, 1976:272).[20] This smaller group agreed to continue consultations the following evening after Dayan met with his military advisers and Eban consulted with his staff at the Foreign Ministry.

Dayan met with senior military officers that evening to review the current plan for military action. Operational plans had been amended several times, and General Gavish, with the approval of the chief of staff, presented the revised version to Dayan. Like all earlier plans it began with a preemptive air strike against the Egyptian air force and then, in a full-scale ground offensive, three divisional task forces would cross the armistice lines simultaneously and advance along four axes, two in northern Sinai and two in central Sinai. Its principal objective was to engage and defeat the bulk of the Egyptian forces in Sinai, and it no longer included the occupation of Gaza or an advance to the Suez Canal. Since the operational plan was consistent with the thinking of the defense minister, Dayan approved the plan presented that evening by Southern Command (Dayan, 1976:272).[21] Just as their civilian counterparts did not ignore the military

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of shipping. By 'territory' I included the territory of Egypt proper. I was also against reaching the Suez Canal, which could provoke an international crisis. . We would arouse all the Canal users against us and they would do Egypt's work for her and help to destroy us. In the second phase, once we had routed Egyptian air and armored forces, and if political conditions permitted, we could proceed to capture the straits" (1976:264). Weizman (1976:216) corroborates Dayan's opposition to seizing the Canal in his description of military decision-making.

20. Eban's account of his changed evaluation on 1 June is somewhat inconsistent with Dayan's report of Eban's lack of enthusiasm for military action at the meeting on 2 June. Eban does not discuss this meeting at 1130, so no direct comparison is possible. Some of the secondary literature (Geist, 1974:350) suggests that Eban's presentation of the maritime project to the cabinet meeting on 1 June was reasonably positive. If this were the case, then Dayan's version would be substantially correct. It is possible that additional information which arrived during the day made Eban hesitate. Eugene Rostow, in another meeting with Harman, emphasized that, although President Johnson had not yet fully determined his course of action, the planning of maritime action was proceeding. The undersecretary of state inquired anxiously whether Israel intended to challenge the blockade by sending a ship through the Straits, and underscored the vital American interest in denying President Nasser a diplomatic victory which could endanger pro-Western regimes in the Middle East. Amit's report also recommended a further delay of a few days. If Eban were troubled by his choice, when he received evidence which supported his earlier decision, he may have reverted to a line of argument which was more familiar to him. Such an oscillating pattern is not uncharacteristic of a decisionmaker troubled by competing values and conflicting evidence. Rabin recalls that even the prime minister still seemed wary. Eshkol again defended the decision to explore every possible political option and reiterated the importance of American support, if not during the fighting, in the post-war period. See Rabin, 1979:97.

21. Considerable controversy surrounds Dayan's role in choosing among military options. Some have argued that the plan was fully prepared by Rabin, Weizman, and Gavish and that Dayan merely gave his imprimatur to it. Weizman (1973), however, maintains that,

consequences of delay, so military decisionmakers evaluated options by considering their international as well as military consequences. Concerned that the consequences of any future strategy of coercive diplomacy would be negative, Dayan approved a strategy of limited defense which would also reestablish deterrence. The decision-making process among military options had ended.

Once the operational plan had been finalized, decisionmakers still had to decide questions of timing and coordination. Weizman best describes this secondary process of decision-making:

> In setting zero hour for the ground attack, we had to prefer one of two considerations; if we pinned our hopes on air force participation in the land battles, it would be better to set the zero hour for our ground forces later than for the air force. The other consideration: a few hours after the attack on their airfields, the Egyptian command would be ready for a ground attack. If zero hour for both air and land attacks were the same, the ground forces would also benefit from the element of surprise. After thinking it over, we preferred the second option, both because we were confident that the air strike would succeed and because we thought that surprise would be of great help to our ground forces (1976:226-227).

The choice of a coordinated air and ground attack may well have been rational under the circumstances. If the preemptive air strike were successful, the Egyptian air force would be unable to provide support for its defending forces. If it were unsuccessful, logically there was little to be gained in delaying a ground attack which would then meet better prepared and supported Egyptian units. There were significant advantages to waiting only if Israel's ground forces required close air support.

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although the broad plan was presented to Eshkol, nothing was finally decided until Dayan became minister of defense. Gen. Gavish (1970), the commander of the southern front, argues further that the limited plan was only eliminated during the 2 June meeting with Dayan, and Sharon (1973b) reports that Dayan amended existing plans to include a simultaneous advance along the principal axes in central Sinai as well as the northern route. Dayan himself uses the words "the one [plan] now before us received my approval" (1976:272). The most authoritative record of military decision-making is that provided by the official historian of *Tzahal* who writes as follows: "Two plans for counter-attack were prepared in the period between the evacuation of UNEF and the closure of the Straits: a limited and a broad one. The starting point of both was the destruction of the Egyptian air force by surprise, and the difference lay in the deployment of ground forces. The broad plan envisaged the occupation of the forward area of Sinai, while avoiding a frontal attack on the Um Katef-Abu Ageila strongholds; while the limited one was directed towards the occupation of the Gaza Strip alone. After the blockade of the Straits by Abdel-Nasser, Prime Minister and Minister of Defence Levi Eshkol was presented with a plan to advance along the Northern axe until the Suez Canal. . With this, the limited plan was put aside. . . The final plan, which was approved by Defence Minister Moshe Dayan on June 2, 1967 stated that in the breaching phase, the forces are to establish a line not east of the line of el-Arish-G'ebel Livni, i.e., short of the Canal and to be in a stage of preparedness for moving towards the Suez Canal and Sharm el-Shaykh" (*Encyclopaedia Hebraica*, 23:726). The military historian does not disclose whether Dayan considered both a more limited advance along the northern route as well as the broader thrust into central Sinai. What is clear, however, is that Dayan would not have approved any plan which concentrated on Gaza or on a limited encounter with Egyptian forces. The principal thrust of his argument was the importance of defeating the Egyptian army and dispersing the troop concentrations.

Decisionmakers were not unreasonable, however, in their estimate that armored forces could operate in the exposed desert without close air support as long as they were not subjected to intense enemy air strikes.

In making their choice, military decisionmakers appear to have given great weight to the factor of surprise.[22] Their heavy emphasis is not unexpected, since surprise is an integral part of Israel's concept of defense. While "thinking it over," decisionmakers drew on a concept made salient by strategic doctrine. Members of the General Staff also considered a second factor highlighted by strategic doctrine—the importance of speed due to the time constraints created by an externally imposed ceasefire. Dayan made just this argument in his general remarks to the Ministerial Committee meeting on the morning of 2 June. The official historian of the army made clear the impact of this perception of limited time on decisionmakers' calculations:

> because of calculations connected with the "political clock" ticking away, [a plan of attack] must include a minimal span of time between the air force's first strike and the first breach of ground forces in the Egyptian arena (1973:726).

In deciding questions of implementation, military decisionmakers paid particular attention to the consequences of short time and surprise for military operations. These two factors, each drawn from prevailing strategic concepts, converged to produce a choice of a coordinated air and ground attack as the preferred military option.[23]

22. Once the decision to coordinate air and ground strikes had been made, military planners attempted to increase the likelihood of tactical surprise. Several thousand soldiers were given short leaves to create an impression of further delay. The General Staff also attempted to create a set of alternative objectives which would force the opponent to divide defending forces. In a simulated plan for an attack on Sharm el-Shaykh, the navy created the impression of a major build-up of landing aircraft in the Gulf of Aqaba by repeatedly sending the same four boats overland to Eilat, while the air force engaged in intensive aerial patrolling over the Gulf of Aqaba and the Red Sea (Whaley, 1969:A576-579). Sharon's division deployed in a two-pronged formation, using dummy tanks, to suggest that it planned to advance southwest as it had done in 1956; its assigned mission was a westward thrust (Liddell-Hart, 1968:18). These tactics are perfectly consistent with the "strategy of the indirect approach" which influenced Israel's military thinking so heavily. Dayan also attempted to increase tactical surprise by discounting reports of an imminent attack in the press briefings he gave on 3 June: "The point . . . is that it is more or less a situation of being too late or too early . . . too late to react regarding our chance in the military field—on the blockading of the Straits of Tiran . . . and too early to draw conclusions as to the diplomatic way of handling the matter" (1967). After his press conference, many reporters left convinced that no immediate attack was likely. Dayan subsequently acknowledged the deliberate attempt to disseminate disinformation: "Without being explicit, I was hoping that despite the popularly drawn implications of the establishment of the National Unity Government and my own appointment to the Defense post, the impression might be gained that we were not about to go to war but were intent on exhausting all the diplomatic possibilities" (1976:273).

23. On the same day that Israel's senior military officials were meeting to make their final choices, their counterparts in Egypt were finalizing their plans. Sadat recalls Nasser's estimates of the time and scope of the anticipated strike by Israel: "With the Tiran Strait closed, war became a certainty. . . . On Friday, June 2, 1967, Nasser endorsed the defensive War Plan in his capacity as President and supreme commander of the armed forces. . . . On

That same day, Eban met with his staff late that afternoon to review once more the estimates they had made. Because their enthusiasm for delay was now much less, they paid particular attention to the likely reaction of the big powers should Israel attack. The news from the Soviet Union was not encouraging. Eban argued that, as the West became more timid, Soviet militancy grew more intense—the two were inversely related (1977:393). That morning, the Kremlin had delivered through Israel's ambassador in Moscow a note significantly more intimidating in tone than its last message a week earlier. It warned Israel of the dangers of initiating military action: "Should the government of Israel take upon itself the responsibility for an outbreak of war, it will have to pay the full price for the results" (cited by Dayan, 1976:274). Although the evaluation of the day before still held, delay was increasing rather than diminishing Soviet hostility.

Even more disturbing was the news from France. The French cabinet had issued an official statement at noon that day warning that it could neither approve nor support any government which fired the first shot. More to the point, it had decided to declare an embargo on arms deliveries to the Middle East, effective as of 5 June. In fact, some equipment was embargoed immediately, and the delivery of planes stopped (Limon, 1972).

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that day, I remember Nasser told Air Force Commander Sidqi Mahmoud that the air force would be dealt the first blow, whereupon the latter turned to him in obvious nervousness, and said: 'We've taken that into account, sir; we shan't sustain any losses beyond the calculated ten percent'. On the same day, Nasser said that Israel would attack on Saturday or Sunday or, at the latest, on Monday" (1977:173-174).

The Egyptian estimate of a ten percent loss was dramatically different from the gains anticipated by Israel from a preemptive strike—and from the losses they expected should Egypt strike first. Egyptian calculations were based on an estimate of Israel's operational capability in the air relative to their own substantial air capability. At the time, the Egyptian air force included approximately 360 fighters and 70 bombers deployed in 18 bases throughout Egypt. Around the airfields were substantial concentrations of anti-aircraft weapons and a small number of SAM-2 missiles, and a sophisticated network of radar stations monitored the air perimeter.

In calculating the impact of the anticipated attack in the air, Egyptian officials expected Israel to reserve a substantial portion of its air force for air defense and ground support. Discounting for combat aircraft that would be non-operational, as in any air force, they concluded that less than half of Israel's combat aircraft would participate in the first attack. Even if this first strike were partially successful in destroying some of the planes on the ground, the attack could not extend to the bases dispersed throughout the country. And the attacking planes would be detected by radar, harassed by ground fire, and destroyed. The rest of Egypt's air force could then assume the offensive.

Rabin suggests that these calculations by Egypt's planners were not unrealistic. The operational plan of the air force reserved only 12 planes of 200 for the defense of Israel's skies in order to concentrate offensive capability in the initial waves. He acknowledges that had Syrian and Jordanian aircraft attacked during the initial two or three hours, or had the strike against Egypt's airfields taken longer than anticipated, the consequences could have been considerable (1979:98). In addition to the commitment of virtually all aircraft to offensive action, a higher percentage of planes than is usual were operational. Finally, military plans called for aircraft to fly below the radar screens in a simultaneous attack on more than half of the Egyptian air bases in the expectation that the anti-aircraft defenses would be neutralized. These three factors explain President Nasser's underestimation of the effects of a preemptive air strike by Israel.

The embargo would have a grossly uneven impact on the major parties to the Middle East conflict. France was Israel's principal source of supply but a marginal supplier of Arab states. Only Lebanon bought a small number of French planes while Egypt and Syria received most of their equipment from the Soviet Union. Although the embargo would not have an immediate impact in Israel's military capabilities—stocks were high and some replacements could be obtained from other sources—its effect would increase through time. The embargo increased the felt pressure of time and the consequent cost of delay. It also made a short war even more important, so that existing stocks of equipment, spare parts, and ammunition would be sufficient. Because a preemptive attack would shorten a war, the embargo increased the benefit of preemption.

Information coming officially and unofficially from the United States also converged to favor preemption. Effective international action appeared increasingly less likely. The day before, after he had completed his testimony before the Senate Foreign Relations Committee, Dean Rusk told the press that the United States had no immediate plans either to test the blockade or to act unilaterally. Secretary Rusk emphasized the importance of action through the United Nations.[24] Also on 1 June, Robert Anderson, President Johnson's personal envoy, who had met in Cairo with Nasser, reported that Egypt's president was not likely to compromise on the issue of the Straits. What was agreed to, however, was a high-level exchange of visits. Vice-President Zahariyah Muhi-a-Din would come to Washington on 7 June, and Vice-President Humphrey would reciprocate soon thereafter. News of the secret meeting and the agreed exchange were leaked to Israel's embassy that day. Israel's decisionmakers became increasingly concerned that further delay might produce a diplomatic *fait accompli*.[25]

A telephone call from Ambassador Harman was put through while Eban's session with his officials was still going on. The two had been in constant touch throughout the day, and they decided that Harman should return to Jerusalem immediately to report personally on his discussions with American officials. He had just had another meeting with Rusk and Rostow at the State Department and asked that any decision await his arrival. From his cautious and abbreviated comments on the telephone, Eban gathered that he had no good news to bring of his conversation with

24. His comments, along with similar remarks by Vice-President Humphrey, were reported in the press in the United States and Israel. See *The New York Times* and *Davar*, 2 June 1967.

25. Their interpretation of events was correct. Quandt (1977:57) notes that, from 31 May on, the State Department was searching for possible compromises to end the crisis.

Secretary of State Rusk (Eban, 1977:394). Amit, too, would return the following day, and decisionmakers would have more reliable and valid information. Pending that information, Eban reconfirmed his prior estimate that preemption would no longer jeopardize American support: "If we were successful, the United States would feel relieved at being liberated from its dilemma, and would not support international pressures against us" (1977:394).

After it had been decided that Harman would return to Jerusalem, Evron arranged a last-minute meeting with Walt Rostow at the White House for 1100 hours that morning. Evron stressed that time was growing short as the military cost of delay multiplied. Prefacing his query with the explanation that he was not inquiring in an official capacity, Evron asked what the American response would be if Israel were to try to break the blockade with one of its ships, meet Egyptian fire, and respond with an attack on Sharm el-Shaykh. Would the United States interpret such an action as an exercise of Israel's right to self-defense? What would the United States do if the Soviet Union intervened? The president's adviser replied that he would seek Johnson's views and quickly asked Evron how much time remained. Evron insisted that no decision had been made but mentioned 11 June.

For the first time, Israel's minister in Washington then raised the second part of the 1957 commitment made by Secretary of State Dulles. Eban had discussed only the first—the American undertaking to assert the right of free passage in the Straits—and Evron now wished to discuss the second—the recognition by the United States of Israel's legitimate right to use force if the Straits were blockaded. He observed that there would be far fewer complications for the United States if Israel rather than America opened the Straits. For the first time, Evron distinguished between the two obligations and tried to build support for independent military action by stressing its benefit to the United States.[26] Simultaneously, he made a final effort to reduce uncertainty.

A hiatus in decision-making activity occurred during the Jewish Sabbath from sundown on Friday, 2 June until an important meeting at the prime minister's home the following evening. The new minister of defense spent that Saturday morning organizing work procedures within his ministry and in meetings with the General Staff. That afternoon, he held deliberately low-keyed press conferences and suggested to reporters that diplomatic possibilities had not yet been exhausted (Dayan, 1976:273). Late that same afternoon, Ambassador Harman, just arrived from Washington, went straight to Eban's home for preliminary discussions. The two of them

26. Johnson (1971:294), without identifying Evron by name, reports part of the conversation. A much fuller version, based on an interview with Evron in 1974, is that of Quandt (1977:58).

joined Allon, Dayan, Yadin, and senior military officers and civil servants at the home of the prime minister later that evening.[27] This informal meeting produced a consensus in favor of preemption.

New information on the prospects for the flotilla was reviewed. Harman had reported earlier to Eban on his final conversation with Rusk and Eugene Rostow before leaving Washington. Rusk had assured him that plans for maritime action were proceeding and would be completed within seven to nine days. The secretary had told Harman that, although measures to be taken by the maritime powers were still under consideration, "nothing had been firmly decided" (cited by Eban, 1977:394). Rusk warned that the issue of who fired first would be extremely important and cautioned again against unilateral action by Israel (Quandt, 1977:59). Harman recommended that evening that Israel delay an additional week since officials in Washington believed that they had been given that amount of time to organize international naval action.[28]

Amit, who had returned from the United States the same day, reported on his discussions with Secretary of Defense McNamara and CIA Director Helms. He had not met with officials at the State Department or the White House. Those he had spoken with in Washington scoffed at the proposed naval task force, and Amit concluded that the United States would do nothing to open the Straits (Dayan, 1976:273).[29] Eban summarized the consensus of those present: the United States would not undertake

27. Present were Prime Minister Eshkol; the minister of labor, Allon; the minister of defense, Dayan; the minister of foreign affairs, Eban; Chief of Staff Rabin; the director of Military Intelligence, Yariv; the head of Ha-Mossad, Amit; Ambassador Harman; the director-general of the Foreign Ministry, Levavi; the deputy minister of defense, Dinstein; the director-general of the prime minister's office, Herzog; and Yigael Yadin, a trusted adviser of Eshkol and a go-between for the prime minister and the minister of defense after Dayan assumed the portfolio.

28. Harman's recommendation of a further delay of a few days is a modification of a consensus reached earlier when he met with Amit and Evron in Washington for a final review before the two reported to the cabinet. All three agreed that Israel should now take independent military action (Evron, 1972). Gideon Rafael, Israel's ambassador to the United Nations, who met Harman when he stopped briefly in New York en route to Israel, also told him that the international regatta would never leave port and argued strongly that the time had come to attack (Rafael, 1972). Professionals from the Foreign Ministry could see no further benefit to delay.

29. Amit met principally with Pentagon officials who had suggested indirectly as early as their 26 May meeting with Eban that the international task force was an inappropriate solution to a problem of national deterrence and defense. It is not surprising that they "scoffed" at the task force or that they subtly encouraged Israel to solve its problem independently. Amit's dismissal of any possibility of international action undoubtedly reflected this influence. He subsequently recalled his evaluation: "It became totally clear that they [the United States] are not planning to do a thing. This does not mean that there were no intentions here or there, or at the time, certain things were said that were not true, or that there was full agreement on what to do. But it was clear that when the time for action came, they would not do a thing" (Amit, 1973). It is not certain, however, that all those listening to Amit were sensitive to the different nuances in policy coming from the Pentagon, the State Department, and the White House. They may not have been expert in assessing the impact of "bureaucratic politics" on American policy.

unilateral or multilateral enforcement action within the immediate future, and time was of the essence (1977:395).

Decisionmakers turned their attention to what they now regarded as the principal issue: probable American behavior should Israel choose to strike. On the basis of his private conversations in Washington, Amit argued that the United States "would do nothing if we went to war. There was even a possibility that the United States might help us in the political sphere. " (cited by Dayan, 1976:273). Eban agreed: if Israel were successful in ending the siege and the blockade, the United States would no longer be hostile to such action (1977:395). Decisionmakers assessed the probability of American support as high.

Israel's decisionmakers hoped not only for American assistance in the Security Council and the General Assembly but, even more important, for American deterrence of Soviet intervention should Israel attack. In his final meeting with Rusk and Eugene Rostow, Harman had explored the likelihood that the United States would act to "neutralize" Soviet intervention if necessary. They were equivocal in their estimate of Soviet intentions and of the likely American response. Amit concluded, however, from his informal soundings that the United States would deter the Soviet Union from intervening in the conflict between Israel and Egypt (Dan, 1974). This search for great power support to forestall possible intervention by another major power is prescribed by Israel's strategic doctrine, and decisionmakers did explore actively the likelihood that the United States would deter the Soviet Union. Their estimate of the likelihood of American deterrence increased as American support for independent action became more probable.[30]

Before they separated, decisionmakers looked briefly at the current operational plan for military action. Dayan reviewed the military option chosen the day before: a three-pronged large-scale assault into northern and central Sinai. Israel would not attack Jordan unless Jordan attacked first and would under no circumstances activate the Syrian front. Only appropriate defensive measures would be taken in the north (Eban, 1977:395 and Dayan, 1976:278).[31] There was consensus among decision-

30. Eban underlined the importance of American deterrence of Soviet intervention in his autobiography. He recalls that, even after news of the success of the preemptive air strike reached Israel's decisionmakers, "There were heavy tasks before us. The first was to ensure that Soviet intervention would be deterred" (1977:404). In a eulogy to President Johnson some six years later, Eban (1973a) disclosed the great weight given to the personal relationship with the president in the expectation that he would deter the Soviet Union: "After so many days of contact with him, in writing and in speech, we could all feel that if Israel took up its own responsibility and emerged intact, it could count on him not to support or even permit a policy of international intimidation."

31. Dayan (1976:278) reports that he met with Major General David Elazar, the commander of the northern front, immediately after the cabinet meeting the next day. Contrary to Elazar's request, Dayan precluded any offensive action, even against three Syrian border emplacements that Elazar wished to capture. Dayan did authorize an advance into the

makers that there was little benefit and substantial cost to further delay. Eshkol, Allon, Dayan, and Eban all agreed to recommend to the cabinet meeting scheduled for the following morning that it authorize a preemptive attack.

On 4 June, the Ministerial Committee of Defense met at 0830 in the morning, continued at 1100 hours as a full cabinet meeting, and then sat again as the Ministerial Committee until 1500 hours. Eban described this series of meetings in stark terms:

> The atmosphere was now strangely tranquil. All the alternatives had been weighed and tested in recent days. It seemed as if our adversaries had narrowed our options down to a single compulsion. Everything in Arab utterance and posture confirmed our impression that our physical survival was at stake, and the attitude of the powers clearly proclaimed our solitude (1977:395).

Changed estimates of the likelihood of an Arab attack and of American action were decisive in making the decision to attack. They made the choice simpler.

General Yariv began with an extensive review of the increase in Arab military capabilities.[32] Egypt had now deployed in Sinai some 100,000 troops and 1000 tanks, organized in seven divisions. The Second and Seventh Divisions were the object of particular concern: they had dug themselves in deeply in the northeast corner of Sinai, only moments away from civilian centers in the northern Negev, and their extensive fortifications would now pose a serious obstacle to advancing forces. The Egyptian air force had approximately 400 interceptors and fighter-bombers as well as 75 or 80 medium and lighter bombers. And Egyptian capabilities were being augmented by the growing commitment of other Arab states. An armored brigade from Kuwait was en route to Sinai and a battalion from Iraq was ordered to Gaza. The expeditionary forces promised by Libya and Sudan had not yet arrived.

Egyptian military capability could no longer be assessed in isolation from that of other Arab states who had joined in a common defense agreement. Just that morning, Radio Cairo broadcast the news that Iraq had officially become a party to the Syrian-Jordanian-Egyptian defense pact. Military Intelligence expected Syria to join actively in any armed

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demilitarized zone which had been the object of so much controversy, but only as far as the international line. The minister of defense recommended that Northern Command strengthen defensive arrangements and extend the minefields and fortifications.

32. Dayan (1976:273) reports that Eban opened the meeting with a review of diplomatic developments while Eban remembers that the meeting began with a military appraisal (1977:395-397). It is standard procedure for cabinet meetings to begin with an intelligence evaluation. This summary of Yariv's presentation is based on that of Dayan and Eban, rather than on any independent estimate of comparative military capabilities, since these are the estimates cabinet members heard that morning. See Dayan, 1976:274-275 and Eban, 1977:395-397.

conflict, and it could commit its army of 50,000 troops, 200 tanks, and over 100 Soviet aircraft, including 32 ultra-modern MIG-21s. Although they were less certain that Jordan would participate in the fighting, military officers could not afford to ignore the possibility. General Riad, who by now had established a front command subordinate to the United Arab Command, had ordered Jordanian forces deployed along the border with Israel. Jordan's army, which consisted of 50,000 to 60,000 troops and some 250 Patton and Centurion tanks, was being reinforced by troops from Iraq. In an explicit challenge to a declared *casus belli*, an Iraqi armored division, which had entered Jordan the day before, was on its way to Israel's border, and Iraq had promised the immediate dispatch of four infantry brigades (Yonah, 1968:94).

If Arab capabilities now permitted a major attack, they also increased Arab intent to do so. The defense pact among the principal front-line states had created both psychological and military conditions which greatly increased the probability of an Egyptian attack. Israel had received reports that President Nasser's strategy of absorbing a first strike was itself under attack as Arab military capabilities increased (Eban, 1977:397). Egyptian generals now estimated that a coordinated first strike victory was possible and were pressing hard for authorization to attack from President Nasser. Popular enthusiasm for war in Arab capitals further increased the pressure on Egypt's president, and his capacity to restrain his eager officers was doubtful. Responding to the increase in military and political cooperation among front-line states, Israel's decisionmakers estimated that Arab military capability had increased. Equally important, they considered that Egypt's decisionmakers accurately perceived this increase and that their higher estimate of their capabilities increased their intent to attack. Capability and intent indicators converged.[33]

There was no dissent from this revised estimate of Arab intent. Eban felt obligated to report the estimate of American intelligence, conveyed to him by Secretaries Rusk and McNamara, that "while Egypt would probably take military action against Israel, an *immediate* attack was not expected" (cited by Dayan, 1976:275, emphasis in original). The foreign minister, however, no longer argued that Nasser wanted victory without war. He too

33. Israel's most experienced military leaders considered that the increase in Arab unity contributed directly to an increase in the likelihood of an Egyptian attack. For their analysis of Nasser's strategy at that time, see a group interview of seven former chiefs of staff in *Ma'ariv*, 16 February 1973. Participating were Bar-Lev (1973d), Dayan (1973), Laskov (1973), Makleff (1973), Rabin (1973), Tzur (1973), and Yadin (1973). Bar-Lev (1973c) recalled in another context that the General Staff thought at the time that President Nasser would attack. Allon (1967c) argued only five days after Israel's decision to attack that the change in Nasser's estimate of Egyptian capabilities changed his intent: "Nasser had planned to destroy the Israel Air Force on the ground and to cut off the Negev and Eilat in a lightning strike of the Egyptian armour, thus solving the Tiran problem. He believed that his army would be victorious."

considered that President Nasser's intent had changed in response to the dynamics of Arab unity.[34]

Dayan added another dimension to the analysis of Egyptian intent. The probability of a first strike had increased not only because of the increase in military capabilities and the Arab estimate of this increase, but also because of Egypt's calculation that Israel would strike first:

> The Egyptians might not strike the next morning, but I believed they were anxious to get in the first blow. If they thought that was our intention too, they would not hesitate to beat us to it and launch their attack the day before we did (1976:275).

Anticipating preemption by Israel, Egypt would preempt the preemption. Dayan argued that hypotheses of either failed deterrence or spiraling escalation suggested a strong likelihood of an Egyptian attack.

Should the cabinet choose to delay further, the minister of defense continued, and permit Egypt to strike first, the cost to Israel would be heavy:

> If they succeeded, the implications for us would the loss of our advantage of surprise. There were two aspects of our loss of surprise. What we failed to gain in a preemptive strike we would be unable to achieve later. We were not like the United States which could throw in wave after wave of reserves. I had to point out that each passing hour made our task more complicated and bloody. Anyone who felt that in the end we were likely to be involved in war should know *the value—and the cost—of each day*. If we took the enemy by surprise, we would knock at least one hundred of their warplanes out of action. This, for us, would be the equivalent of all additional arms supplies we might receive for the next six months—if indeed there was a country that would agree to supply us with weapons. The first shot would determine the side which would suffer the heaviest casualties and would assuredly change the balance of forces. Our best chance of victory was to strike the first blow. Considering the situation in which we found ourselves, with hundreds of enemy tanks poised on each of the axes leading into Israel from the Egyptian bases in Sinai, together with the last minute preparations they were making, it would be fatal for us to allow them to launch their attack. We should decide to strike the first blow (Dayan, 1976:277, emphasis added).

Dayan was explicit. Even an assurance of postwar supplies could no longer compensate for the loss of a first-strike advantage. The costs of delay were now overwhelming: the loss of the advantages of tactical surprise, higher

34. In his autobiography, Eban gives great weight to the impact of Arab unity on Egyptian intent. He writes also of the reports of war enthusiasm and the skepticism that Nasser could restrain the forces pressing for attack. In support of his increased estimate of the likelihood of an Egyptian attack, he cites an account of the prevailing atmosphere in Cairo by Eric Rouleau, the well-connected correspondent of *Le Monde* in the Middle East. Rouleau described the mood in Egypt thus: "We have waited long enough. It serves no useful purpose to wait any longer. Let's finish with Israel and be done with it. No more words; prompt action is needed. Forward to Tel Aviv!" (cited by Eban, 1977:397).

casualties, and higher losses of equipment. Like his military advisers, the minister of defense urged an immediate end to delay and a choice to preempt.

There was no longer any strong proponent, however, of further delay. When the military evaluation was completed, the prime minister asked Eban to assess likely international reaction. Eban read to his colleagues the text of a letter from President Johnson which had arrived the day before. The President wrote the prime minister that the United States hoped to secure signatures for the declaration on maritime freedom from all the states it had approached other than France. France, unfortunately, had thus far refused to sign. The United States was also continuing its effort to establish the naval task force which should include at least six other countries. At the moment, however, only Australia and one Latin American state had agreed to participate. Present plans called for the naval task force to escort a ship of Israel flag through the Straits on 11 June and, if Egypt opened fire, the escorting warships would return the fire (Dayan, 1976:273-274). Although the president reiterated his commitment to the right of innocent passage through the Straits, he concluded on a distinct note of caution:

> I explained to Mr. Eban that I want to protect the territorial integrity of Israel and the other nations in this area of the world, and will provide as effective American support as possible to preserve the peace and freedom of your nation. I stressed too the need to act in concert with other nations. Our leadership is unanimous that the United States should not move in isolation (Foreign Ministry, cited by Brecher, 1975:420).

The President made no special promises; on the contrary, he emphasized the constraints to unilateral action by the United States. The point was not lost on his readers. Eban considered this to be a significant retreat from the President's earlier position (1977:397-398).[35]

Even though the probability of international action was much lower, President Johnson repeated his earlier warning:

> I must emphasize the necessity for Israel not to make itself responsible for the initiation of hostilities. Israel will not be alone unless it decides to go alone (Foreign Ministry, cited by Brecher, 1975:420).

This was the first warning against unilateral military action by a senior American policymaker since 28 May. Eban suggested, however, that the

35. Eban's estimate appears to have been more or less correct. Later that same day, in Washington, Senator Mansfield released a report on the testimony of Vice-President Humphrey and Secretaries Rusk and McNamara before the Senate Foreign Relations Committee. The report distinguished sharply between a declaration, the use of force, and the use of force to guarantee freedom of passage for ships of the United States as distinct from those of Israel. The Committee had been promised that "so far as using force is concerned, anything beyond the declaration would be taken up with Congress" (*The New York Times*, 5 June 1967).

formal appeal for further restraint not be given undue weight. American political and moral responsibility was now much greater than it had been ten days earlier and, consequently, the United States was not likely to abandon and isolate Israel as it had in 1956 (Eban, 1977:400).

The foreign minister told his colleagues that there were different estimates of Soviet intentions. He informed them that Soviet Foreign Minister Gromyko had summoned Ambassador Katz two days ago to warn again of the consequences should Israel initiate hostilities. Eban considered that, although Israel could expect political hostility, there was no indication of armed intervention. This indeed was the majority assessment, especially if the war were short (1977:398).[36]

Eban turned to an evaluation of the intentions of Israel's principal arms supplier, France. He told the cabinet of a meeting between de Gaulle and Ambassador Eytan the day before when the French president had warned Israel of the dire consequences of independent military action: Arab bombing of Israel's cities and the loss of American support. De Gaulle had told Eytan that France was embargoing arms to Israel to prevent Israel from undertaking military action; the embargo would remain in force "as long as it is not clear if you will go to war" (cited by Eban, 1977:399).

The foreign minister concluded his assessment by arguing that the evaluation of the military authorities must be reconsidered within the context of the embargo. Not only had the likelihood of an attack increased, but Israel's military capability was now at its peak. If supplies continued to flow to the Arab states from the Soviet Union while Israel's pipeline was cut, the arms balance would deteriorate (1977:399).[37] The moment was now opportune. The diplomatic cost of preemption had been reduced considerably; indeed, if military action were successful, there could be an improvement in Israel's political position. Eban recommended that the cabinet decide in favor of preemption.

The prime minister was in fundamental agreement with his principal ministers. President Johnson's letter was, at best, "disappointing," and the time had come for military resistance (Dayan, 1976:277). In the general discussion that followed, the minister of the interior, H. M. Shapira,

36. Allon subsequently explained that the Soviet Union was unlikely to intervene because of the risk of confrontation with the United States and because of their military weakness in the Middle East. He recalls that, in cabinet discussions of the likelihood of Soviet intervention, only Dayan considered an intervention plausible because of the Soviet commitments to Arab states and the possibility of loss of face which would flow from failure to honor those commitments (Allon, 1968).

37. Mordechai Limon, the military attaché at the embassy in Paris, succeeded in securing a twenty-four hour delay to enable materials already loaded to be released (Bar-Zohar, 1970:182-183). The effect of the embargo would be felt most seriously in the supply of aircraft. The news was not much more encouraging from the United States. In response to requests to the Pentagon, the Department of Defense had pointed out that, even if the weapons were supplied, they would not reach Israel in time to have any impact on the current crisis (Dayan, 1976:275).

interjected the views of Ben Gurion whom he had seen again two days earlier. The former prime minister urged that Israel refrain from the use of military force until the support of a powerful ally was assured. Shapira recommended as a third alternative that Israel send a test ship through the Straits; this would put the onus of a first strike on Egypt.

Dayan disputed Shapira's estimate of the cost of military action and the benefit of sending a test-ship.[38] If a ship were sent through the Straits, Israel would transmit an unambiguous signal to Egypt that it intended to attack and would therefore lose all the advantages of surprise. And, as he had argued earlier, the cost of absorbing a first strike would be enormous. The minister of defense insisted that the time had come to strike: the probability of an Arab attack was high and increasing as was the military cost of delay. Although he urged the choice of preemption, Dayan did not bolster support for his preferred option. He recalled subsequently:

> I could not dismiss lightly the words of Ben Gurion, who had warned against embarking on this war. Nor could I ignore the stand taken by de Gaulle, the cautionary advice of Dean Rusk, and particularly the threats of the Russians (1976:279).

Aware of the cost of its consequences, the minister of defense recommended the choice of preemption. He proposed a formal resolution that the cabinet authorize the prime minister and the minister of defense to approve the timing of the action and to so order the General Staff of the Israel Defense Forces. The two Mapam ministers, Barzilai and Bentov, moved a second resolution that Israel postpone any decision for the time being and await the efforts of President Johnson to set up a multinational fleet to open the Straits, while making clear that Israel's security and existence were in grave danger and demanding immediate supplies of arms as required by the increasing seriousness of the security situation (Dayan, 1976:277).

The prime minister called for a formal vote on the two resolutions. Eighteen members of the cabinet voted in favor of the resolution authorizing military action, while the Mapam resolution received only the two votes of the party's ministers. After further consultations with their party colleagues, they added their assent to what then became a unanimous vote. The formal resolution stated:

> After hearing a report on the military and political situation from the Prime Minister, the Foreign Minister, the Defence Minister, the Chief of Staff, and the

38. Dayan subsequently explained his rejection of the advice of his long-time political mentor: "Ben Gurion, whose political wisdom I had always admired, was now staying not far from my office, but I forebore from taking counsel with him. I thought he had an imperfect vision of our situation. . . He . . had an exaggerated opinion of Nasser's power and underrated the controlled strength of the Israel Defense Forces" (1976:279). Disagreeing with Ben Gurion's estimate of relative capabilities, Dayan did not succumb to the judgment of an authority figure.

> head of military intelligence, the Government ascertained that the armies of Egypt, Syria and Jordan are deployed for immediate multifront aggression, threatening the very existence of the State.
>
> The Government resolves to take military action in order to liberate Israel from the stranglehold of aggression which is progressively being tightened around Israel.
>
> The Government authorizes the Prime Minister and the Defence Minister to confirm to the General Staff of the I.D.F the time for action.
>
> Members of the Cabinet will receive as soon as possible the information concerning the military operation to be carried out.
>
> The Government charges the Foreign Minister with the task of exhausting all possibilities of political action in order to explain Israel's stand to obtain the support of the powers (*Jerusalem Post*, 5 June 1972).

After the vote, the minister of defense telephoned the chief of staff to inform him that the operational plan, with the hour of attack set for 0745 the following morning of 5 June, had been approved for action.

The Rationality of the Process

Within the space of a week all but one of Israel's leaders changed their minds. A week earlier only Carmel favored preemption but, by the end of the cabinet meeting on 4 June, the choice to preempt was unanimous. A unanimous decision by such a large group is often suspect; it can indicate the dynamics of collective solidarity operating in a group under intense pressure. A review of the evidence, however, suggests more complicated processes at work as ministers struggled to reconsider their prior estimates in an increasingly threatening and inhospitable environment. Although there was some variation in individual performance during the week, the change in preference is best explained by analytic recalculation by cabinet members of the probability and cost of an Arab attack (Path 7).

Paradoxically, the more menacing strategic environment made these calculations simpler for most members of Israel's cabinet. They received help both from friend and foe but principally from foe. Most important, as uncertainty about Arab intentions declined, decisionmakers stopped arguing about the scope of the challenge to deterrence; President Nasser and King Hussein made academic any debate about the central issue on the agenda for decision. Those responsible for decision no longer talked past but to each other.

Decisionmakers now defined their problem as defense in response to massive and immediate failure of deterrence. Almost all the actions which had been specified individually as *casus belli* had now occurred: a blockade of the Straits; concentrations of forces along all of Israel's borders; an arms embargo which would affect future military capability; and a high probability of an Arab first strike. In defining the issue, Israel's leaders no longer faced the logical problem of which was more important or more

dangerous. The violations were now so many and so severe that it did not make sense to consider each one separately. Decisionmakers did not have to resolve the conflict of priorities among the multiple challenges to deterrence. Rather, they aggregated all and redefined the problem as one of immediate and massive deterrence failure. The lacunae in the logic of the strategic argument became irrelevant when decisionmakers had to add rather than compare. They did not so much solve their problem logically as their logical problem was solved for them.

TABLE 7.1

4 JUNE: A COGNITIVE-ANALYTIC PATH TO CHOICE
(Path 7)

STIMULUS:	Jordan concludes a defense pact with Egypt on 30 May.
SEARCH:	Very limited; two principal options of attack and delay brought forward from earlier problems; third option of test-ship rejected as inconsistent with strategic doctrine.
ESTIMATION AND REVISION:	Analytic; easy use of convergent indicators of capability and intent to increase probability of attack; careful revision of estimates of likelihood of the flotilla, Soviet intervention, and US support; some inconsistency in management of evidence toward the end of the process.
EVALUATION:	Calculation of cost and benefit easier in analytic process; military cost of delay high and growing; no further diplomatic benefit of delay; military benefit of preemption high and no further diplomatic cost.
CHOICE:	Analytic; easy because of reduced conflict of values which makes preemption obvious choice.

Once members of the cabinet had a clear definition of the problem, little additional search activity was necessary (Table 7.1). Delay and preemption, which had been identified ten days earlier, continued to be the obvious alternatives. Each was consistent with a different component of strategic doctrine, and both were now thoroughly familiar to participating decisionmakers. Now that the problem was unmistakably one of defense, however, military experts in particular extended their search beyond the very general option of preemption to refine their plans. All the military alternatives under consideration emphasized tactical surprise and initiative, two key components in Israel's concept of defense. In the more narrowly defined military problem, the minister of defense and senior officers worked essentially within the permissive framework of relevant strategic concepts, and their emphasis on a surprise air strike followed by an indirect ground attack should have been no surprise to any assiduous reader of army publications. The only other alternative discussed in the cabinet was the sending of a test-ship through the Straits to force Egypt "to fire the first shot." It was immediately rejected out of hand by both Dayan and Rabin as, in effect, inconsistent with prevailing strategic assumptions

which emphasize the enormous advantages of surprise. Once again, leaders began by eliminating unacceptable alternatives and then proceeded to direct comparison of the remaining two options.

Strategic concepts also were of some use in revising estimates in selected areas. They were most helpful in estimating the likelihood of attack, and it was the change in this estimate which stimulated a redefinition of the problem for decision and a reevaluation of the cost and benefit of the consequences of the two principal options. The entry of foreign troops into the West Bank of the Jordan had been repeatedly and vigorously defined as a *casus belli*. The consummation of the Jordanian-Egyptian defense pact and the anticipated arrival of Iraqi troops in Jordan were therefore considered particularly valid indicators of the probability of attack. The availability of a valid indicator decreased the likelihood that decision-makers would depress the impact of information which challenged their prevailing assumptions. No senior military officer, or civilian decision-maker for that matter, had considered it likely that Jordan would cooperate with Egypt; the antagonism between the president and the king was mutual and intense. Israel's decisionmakers, like President Nasser, considered Arab disarray a constraint on Egyptian intent to attack. When they learned of the agreement between Egypt and Jordan and the establishment of a functioning United Arab Command, they understood its significance immediately, revised their hypothesis of Arab fragmentation (H_9 to H_{10}), and updated their estimate of the probability of attack. Because they had a strongly diagnostic indicator, Israel's leaders quickly acknowledged miscalculation and compensated for it. Indeed, partly because the indicator was so diagnostic and the information so unexpected, some members of the cabinet may have overcompensated as they drastically increased their estimate of the likelihood of an Arab attack. Generally, however, sensitivity to uncomfortable and unexpected news is characteristic of analytic information-processing.

When they made their last decision to delay a week earlier, ministers debated whether to give greater weight to capabilities or intent since the two diverged to some extent. Some members of the cabinet relied more heavily on capability indicators than others, and strategic concepts were of little help in settling the dispute about the relative importance of the two sets of indicators in estimating the probability of attack. One week later, the divergence between Arab military capabilities and their intent had virtually disappeared. Although they could get little guidance from strategic doctrine, decisionmakers needed little since all important indicators now pointed in the same direction.

Those decisionmakers who looked principally at the deployment of Arab armies along the borders of Israel estimated a high probability of attack. Those who focused on the strategic balance and the deterrent

calculus expected Egypt to increase its estimate of joint Arab capability after the Egyptian-Jordanian pact and inferred a high probability of attack. Those who gave greater weight to the statements of Arab leaders listened to speeches hailing Arab unity as the prelude to holy war and inferred intent to attack. And those who considered Egypt's decision-makers sensitive to Israel's signals in an interdependent relationship of deterrence expected Egypt to anticipate an attack by Israel after the wholesale series of violations of declared *casus belli* and inferred Egyptian intent to preempt. Whatever indicators members of the cabinet used, their estimates converged; there was no longer any problem of interpretation. Again it was not that decisionmakers solved their problem; rather their problem disappeared when indicators converged.

The convergence of indicators may explain the substantial increase in the use of categorical language to describe the probability of an Arab attack. For the first time, decisionmakers appeared certain rather than uncertain. Generally, judgments of certainty indicate biased or poor processes of inference; the capacity for probabilistic thinking is an important component of an analytic process. In this case, however, the estimates of certainty or near-certainty reflected the convergence of multiple indicators of Arab intent and capability. Moreover, since most of these indicators had been validated individually before they were used, the effect of their convergence was cumulative. For policymakers working with multiple rather than single indicators, uncertainty about the probability of an Arab attack would, indeed, be drastically reduced. If estimates of the likelihood of attack had not responded to change in several indicators, strong conservative bias or inertia effects would likely have been at work. Although evaluation of the scope of revision must await more formal consideration,[39] the qualitative increase in estimates does not appear irrational given the set of indicators members of the cabinet used and the evidence they saw. Although decisionmakers were not analytic only because it was easy, it was easy to be analytic.

Decisionmakers considered not only the likelihood of an Arab attack but also the probability of American support and Soviet military intervention should they preempt. While strategic concepts identified these factors as important, they provided no guidance whatsoever in the selection and use of appropriate indicators; decisionmakers were, in effect, on their own. Members of the cabinet had considered these factors before, however, during this decisional sequence, and that made their task much easier. Now reassessing rather than assessing *de novo*, they were scrupulous and careful in their search for and weighing of evidence. This

39. Chapter 9 uses Bayesian analysis to establish the optimal scope of revision. Decisionmakers' qualitative estimates can be compared to these more precise figures to evaluate the quality of their intuitive revision.

was the case when evidence was ambiguous and not easily interpretable and when the information was discrepant and the news unpleasant. In the later stages of their review, however, as the moment of decision approached, some ministers developed stronger commitments to particular interpretations and attached less significance to discrepant information than they had earlier.

In a close approximation to analytic procedures, decisionmakers built in reassessment of prior estimates and mined multiple sources of evidence. Eban was principally responsible for this review process, and his management of it is particularly striking. With strong commitments to international action, the foreign minister nevertheless deliberately initiated a reexamination of his prior estimates. He agreed with Prime Minister Eshkol that someone of independent judgment be sent on special mission to Washington to provide a comparative estimate of the likelihood of the naval task force and of American diplomatic support. The reassessment process was stimulated by the increase in the probability of an attack and made much easier by the unmistakable decrease in the prospects of the international regatta. Foreign Office personnel monitored the statements of Western leaders for changes in nuance and tone and quickly spotted the attrition in the number of those prepared to support and participate in a naval show of force. Indeed, by 3 June, there was little disagreement among Israel's foreign policy experts in Washington and Jerusalem, and their consensus was not artifactual but responsive to a range of public and private evidence. Their expert judgment was reinforced by the independent estimate of Amit relying on very different sources. Under considerable stress, Eban and Eshkol showed themselves able to use multiple indicators and varied evidence to change their earlier judgments even when the change was unpleasant.

In the later stages of the decision-making process, as the prospect of the flotilla receded, Eshkol, Eban, and Dayan, as well as their advisers, paid increasing attention to the likelihood of Soviet intervention and to American willingness to deter it. Here the basis of evidence was much thinner, but decisionmakers used what they had. Harman, Evron, and Amit independently explored and assessed the likelihood that the United States would forestall a Soviet attempt to intervene. The rather equivocal answers they got were transmitted separately to key policymakers in Jerusalem. Nor did decisionmakers suppress information or estimates which contradicted their evaluation. Eban told his cabinet colleagues that his staff was not unanimous in their evaluation of Soviet intentions. And although Eban considered military intervention highly unlikely, he told his colleagues of the unpleasant note received from the Kremlin only two days before the day of decision. The note was considerably more menacing in tone than the message Eshkol had received the day before the cabinet last

chose to delay. And yet decisionmakers now gave much less weight to a harsher Soviet threat in the context of a higher estimate of American support. In the absence of better and more complete evidence, this was not *prima facie* an illogical judgment to make. If indeed the United States was more likely to approve tacitly independent action by Israel, it should be more willing to deter Soviet intervention. The key was the estimate of American support.

Toward the end of the decisional process, Eban and his associates focused most of their attention on the likelihood of this diplomatic support. After a careful and almost textual analysis of public and private communications, they skillfully detected signals by omission. They attached considerable significance to the absence of an explicit warning from senior American officials and upgraded their estimate of the prospect of American support. They treated the same indicator very differently, however, after their review was complete. In his letter to Prime Minister Eshkol on the morning of 3 June, President Johnson, in language almost identical to that he had used on 28 May, warned Israel under no circumstances to initiate military action. When Eban read this warning to his cabinet colleagues, however, he advised them to discount its significance. He was no longer responsive to the presence of a presidential warning even though its absence had provoked his original increase in the estimated likelihood of American support.

It is possible that at this late stage in the decision-making process, having made a renewed commitment to a revised hypothesis, Eban was now considerably more reluctant to admit any discrepant information. A complementary explanation would suggest that the warning derived its significance as much from its context as from its content: a warning delivered when international maritime action was no longer likely did not have the same impact. But even these explanations are not fully satisfactory. If American support—crucial to the estimate of Soviet intervention—was more likely principally because President Johnson did not warn, the arrival of a stern warning should have provoked at least a momentary downgrading of its probability; there is no evidence that it did. Because it did not, the estimate of American support must have been sensitive to other factors as well.

Eban increased his estimate of the probability of American political support for military action when he decreased his estimate of the likelihood of the naval patrol. The two appeared to be inversely related; this was due in part to Eban's definition of the problem for decision at an earlier stage. The two were linked by argument rather than assessed independently by evidence. The logic of this linkage is not inherently unpersuasive. It was conceivable that an American president would feel especially annoyed that the international diplomatic process had been prematurely terminated, and

that is just the point Harman made in urging one more week of delay. Generally, however, the argument that the United States would find it more difficult to isolate Israel after the obvious failure of the flotilla was not unreasonable. The failing flotilla reduced the danger of American abandonment and, consequently, of Soviet intervention. Again, decision-makers did not have to solve the logical dilemma they had created by inversely relating American support and maritime action. The sinking flotilla removed the problem for them.

The extraordinary readiness to reexamine and reassess the likely consequences of preemption and delay can be explained partly by the presence of these inverse relationships. Since both American support and international action were desirable, a decrease in the probability of one was less painful than it might have been if it were not compensated for by an increase in the likelihood of the other. Despite some inconsistencies in the management of evidence which flowed from the logic of the argument, the general pattern of careful scrutiny, reexamination of the reliability and validity of evidence, use of multiple indicators, and openness to revision approximates analytic procedures of inference.

The calculation of the cost and benefit of the consequences of the two options was much easier than it had been a week earlier. As uncertainty about an Arab attack and American support was reduced, cost and benefit became obvious (Table 7.2). Eban as well as Allon, Dayan, and Rabin now gave greatest weight to military security in assessing the already high and ever-growing cost of delay. The list was long: increasing military casualties as Egypt improved the deployment and organization of its forces;

TABLE 7.2

PRINCIPAL ESTIMATES OF COST, BENEFIT, AND LIKELIHOOD OF CONSEQUENCES OF OPTIONS, 4 JUNE

Attack:	Probability of US support increases after long delay and decline in probability of flotilla
	Probability of USSR military intervention decreases as probability of US support increases
	Benefit to military security increases, restoration of the power to deter, end to threat of Arab attack
	Cost to international support decreases after long wait; successful military action could produce gain.
Wait:	Probability of flotilla decreases
	* Probability of Arab attack increases after Egyptian-Jordanian defense pact
	Benefit to international support constant or reduced; no further benefit could be expected from additional delay
	* Cost to military security escalating due to multiplicative cost of three-front war

* Decisionmakers paid particular attention to this dimension.

increasing casualties in a multi-front war; higher casualties if Israel lost the advantage of tactical surprise; damage to the air force should Egypt strike first; decrease in long-range military capability as a result of the arms embargo; and loss of the capability to deter. Indeed, military officers were so convinced of the cost of delay that they resorted occasionally to categorical estimates of "catastrophe." Decisionmakers also considered the economic cost of maintaining a large-scale mobilization of reserves if action were further delayed, and they stressed the damage to civilian centers should Egypt strike first. Since the foreign minister and his staff could see no further diplomatic benefit to delay, the net cost was obvious.

Eban also estimated that the diplomatic cost of preemption had decreased. Military action might create some short-run loss of diplomatic support: the opposition of France, a principal arms supplier, was not an inconsiderable military and diplomatic loss. Generally, however, international opposition to unilateral action by Israel had decreased as the blockade continued. The foreign minister argued, on the contrary, that some diplomatic benefit might accrue if Israel relieved others of a burdensome international obligation. Preemption also promised greater benefit to military security than it had a week earlier. Not only would it restore the capacity to deter, but it would also forestall an imminent Arab first strike. Dayan and others with military expertise paid less attention, however, to the military benefit of preemption than they did to the military cost of delay. In their evaluation, they focused on the amount to lose rather than on the amount to win. This focus was consistent with the risk-aversity of strategic doctrine.

The choice that morning of 4 June was easy. Once Eban, Dayan, and Allon were agreed that preemption promised greater benefit on most dimensions and delay greater loss on all dimensions, calculation was not difficult or painful. This simplification of choice was not the doing of decisionmakers; they did not have to simplify an unpleasant conflict of values since the conflict of a week ago had all but disappeared. Changes in the estimates of cost and benefit converged to favor preemption, and members of the cabinet had very little integrating and trading-off to do. If delay were costly on all dimensions and preemption beneficial on most, simple processes of addition and subtraction would produce an analytic choice. Israel's leaders saw the obvious and chose it. Preemption was the obvious choice not because policymakers bolstered or simplified their accounting, but because their estimates changed in response to changes in the environment. It was in this sense that Eban could speak of a tranquil atmosphere, where alternatives had been weighed and tested and "our adversaries had narrowed our options down to a single compulsion" (1977:395). The choice to preempt is explained by the use of analytic procedures of estimation and evaluation within the constraints imposed by

organizing concepts. Members of Israel's cabinet were lucky: dominance was logical and, because it was logical, an analytic choice was psychologically easier.

If the change in choice from delay to preempt is explained by a cognitive-analytic path to decision, at least three factors may be relevant to this capacity for even partial analytic processing by members of Israel's cabinet. Contrary to current interpretations, the first factor—high levels of stress—apparently did not constrain analytic processing. The environment in which Israel's leaders made their choice was not conducive to sober analysis. In the week from 28 May to 4 June, they were surprised and they perceived intense threat and urgency.[40] These conditions are not at all optimal for analytic processing—indeed, this was the only time since the problem first arose that decisionmakers were simultaneously threatened, pressed, and surprised. Although the Egyptian-Jordanian defense pact was unexpected, however, it was not uninterpretable. Once decisionmakers acknowledged their miscalculation, they were less rather than more bewildered. After Jordan joined forces with Egypt, senior military officers and members of the cabinet were much less uncertain about the probability of an Arab attack even though they were considerably more threatened. When threat and pressure of time became intense, some did wish to curtail the decision-making process and act. Rabin (1972), for example, recalls that he thought at the time that Israel should have attacked on the thirtieth of May and one of the members of Knesset, Michael Hazani, was heard shouting in the corridors: "This cannot go on any longer. Take a decision, and quickly" (Nakdimon, 1968:169).

This push for closure was resisted. On the contrary, the clarification of Arab intent led Eshkol and Eban to redouble their efforts to reduce uncertainty about international action and American support. When their perceptions of crisis intensified, they expanded rather than contracted their processes of search and evaluation. They were able to do so partly because they could draw on estimates they had generated earlier in less frantic moments and use these as the basis for review and reassessment.

The second factor, group procedures, was also a helpful antidote to the impact of crisis on decision-making processes. At their evening meeting at the prime minister's home on 3 June, for example, a small group of key decisionmakers did reach a consensus on the choice of preemption. At the cabinet meeting the following morning, however, they did not communicate their shared preference but again reviewed evidence and argument. The minister of the interior felt free to challenge prevailing opinion and offer a third option; he could dissent without reference to

40. McCormick (1975:52, 33) finds that both threat and time pressure rise after 28 May and peak on 30 May, also a moment of surprise. Threat and time pressure then decline sharply in the ensuing four days and rise again on 4 June.

group pressure. The two Mapam ministers offered and voted for a competing resolution, and only after consultation with their party colleagues did they add their assent to the majority resolution. Consensus was not forced from above but built from below by a careful and patient prime minister. That morning, cabinet discussion lasted for over seven hours as members considered and reconsidered.

Coalition-building is no more convincing than concurrence-seeking as an explanation of the processes of collective decision. A concept of coalition politics is useful in the interpretation of the deep domestic divisions which culminated in the formation of a new government, and the change in the composition of the cabinet, though not related directly to policy preferences, inevitably affected the relative weight of important ministers. Even then, however, the principles of coalition-building cannot explain why a junior partner pressed to include those whose policy preferences it opposed or why the coalition leader refused to risk a minimum winning coalition.

Even more to the point, coalition-building cannot explain the shift in policy preference of sixteen cabinet ministers. The coalition of 28 May remained largely intact on 4 June; only its fringe members changed. Ahdut Ha'avodah members Carmel and Allon, who had dissented from the earlier decision, joined wholeheartedly in support of the choice to preempt, while the two Mapam members were now more reserved in support of the majority decision. But the sixteen cabinet ministers who were members of the overwhelming majority in both cases shifted their preferences from diplomatic to military action.

The shift cannot be explained plausibly by a requirement of majority support for a revised set of proposals. A large majority already existed on 28 May; virtually all the members of that majority changed their preference for an alternative that was already on the table when they supported delay. There is no evidence, moreover, that the prime minister anticipated any difficulty in building a majority coalition for preemption or that he modified strategy to assure the participation of marginal supporters.

If majority support was not the issue, perhaps the role of members "essential" to any majority coalition was critical. The new minister of defense could be considered an essential member and he strongly supported preemption. The foreign minister also was fully aware that his recommendation carried special weight among his colleagues:

> In constitutional theory the Foreign Minister is one of many whose votes have equal weight; in practice, however, his vote, if given for military action, has the strength of many. It is, after all, his business to exhaust peaceful remedy. I had lived with the knowledge that if I withdrew my inhibiting hand, military resistance would become certain (Eban, 1977:386).

Eban does not argue, however, that his support is essential in a decision to

preempt, only that it is valuable. He could not block. Dayan, the new minister of defense, was an essential member of any coalition. There is no evidence, however, that any other group members, including the prime minister, changed their mind in order to assure Dayan's participation in the majority position. If the coalition leader is neither building a majority around a new or revised set of proposals nor modifying strategies to placate essential members, then coalition dynamics do not provide a powerful explanation of the change in the cabinet's decision. Once competing interpretations are eliminated, the shift in the collective choice from delay to attack is explained most plausibly by the reconsideration of estimates of probability and value by group members committed to careful review and thorough investigation.

The most important aid to decision came neither from within the group nor from prior processes, but from the actions of others which compensated for the third factor of flawed logic in strategic argument. While strategic concepts were of some assistance in organizing estimation and evaluation, areas of incompleteness and incoherence had permitted ambiguity in problem diagnosis and inconsistency in definition of options. Both ambiguity and inconsistency disappeared when Egypt and Jordan reduced uncertainty and the United States and the maritime powers reduced complexity. When Arab intent and capability converged to indicate a high probability of attack, members of the cabinet could diagnose their problem as a massive and immediate challenge to deterrence. When leaders were less uncertain, the conflict of priorities disappeared, and the gaps in strategic concepts became unimportant. When the flotilla failed, there were no consequences to the earlier illogical attempt to solve several problems simultaneously. Even an analytic component in the processing of choice could not adequately compensate for faulty premises, poor problem diagnosis, and confusion in the definition of options, but members of Israel's cabinet were lucky: although their thinking was not error-free, there were no costs for logical error.

chapter **8**

Methodology for Revision and Choice

Model Specification and Design

This chapter presents a methodology for evaluating revision and choice. It consists of model specification and design, decision analysis, sensitivity analysis, Bayesian inference, and data acquisition. The chapter presents criteria for assessing the quality of decision-making, i.e., the degree to which the processes of inference and choice are rational. This is one of the first efforts to use empirical evidence in conjunction with rational criteria to evaluate the process and product of decision-making. Going beyond prior attempts, the present inquiry translates primary source statements into quantitative estimates and uses these estimates with mathematical models as a basis for the evaluation of Israel's process and choice calculations.

The examination of Israel's decision-making processes during 1967 suggests that policymakers used analytic procedures of choice to select options that were identified through cognitive search. They integrated information-processing and consideration of options into the broader structure of cognitive beliefs. Even though search was limited to those options consistent with prevailing beliefs, the processing of information and evaluation approximated the procedures suggested by analytic models of choice. A careful consideration of cost, benefit, and likelihood of consequences, within the constraints established by beliefs, should produce a more rational decision than those choices made through purely cognitive mechanisms. Indeed, the rationality of a decision cannot be assessed at all if policymakers ignore probability and value in making their choice. Discovery of statements containing words describing likelihood and value is evidence of a process of choice that strives toward rationality. For example, if one finds statements making value trade-offs, such a discovery suggests that a rational process of decision-making generated the empirical traces. The absence of value trade-off data or other cost-benefit evidence, however, need not imply lack of rationality. Given the presence of value data, it is possible to consider whether choice is "expected-value maximizing," i.e., rational.

Even though Israel's decisionmakers in 1967 approximated analytic

techniques of evaluation and choice, they used cognitive processes to identify options and principal consequences. Strategic doctrine identified in Chapter 4 represents cognitive beliefs relevant to model specification here. In other words, doctrine represents a set of core beliefs that may be used to specify the parameters of a decision model. Before 1967, strategic concepts focused on deterrence and defense. These concepts implied that policymakers could anticipate deterrence failure by monitoring violations of declared *casus belli*. Israel's decisionmakers' subjective estimates of the probability of attack can be considered as an indicator of the likelihood of deterrence failure. The analysis of strategic concepts suggests concentration of Arab armies as one measure of the likelihood of attack by Israel's adversaries. The perceived probability of attack increased, for example, after Egypt redeployed some of its forces from Yemen. Although decisionmakers revised their estimates of the probability of an attack in response to information of force concentration, there is no evidence to suggest an automatic choice of mobilization. On the contrary, in a near-analytic process, policymakers considered multiple consequences and dimensions of value before they chose.

While the major impact of a choice to mobilize is on the likelihood of an adversary attack, the two decisions to delay have additional consequences.[1] Israel's strategic doctrine before 1967 specified such factors as strategic surprise (an unanticipated attack by Arab armies) as well as great-power support of the belligerents. For example, the higher the estimate of surprise attack, the more likely that Israel's decisionmakers would choose to strike first. The higher the probability of Soviet support for Egypt, however, the lower the likelihood that Israel would preempt. On the other hand, the higher the probability of American support for Israel, the more likely is a choice to preempt.

Consequences of choice specified by doctrine may be interrelated: the likelihood of Soviet intervention is conditional upon American support for Israel; Soviet intervention on behalf of the Arab states may be perceived as less likely, given U.S. deterrence of the Soviets. Another aspect of doctrine relevant to model specification concerns coordination with the great powers. In this respect, Israel's leaders considered the potential for an international flotilla to be a consequence of its choice to delay on 28 May 1967. The doctrinal base for specifying the model to include the flotilla derives from former Prime Minister David Ben Gurion's belief that Israel should take military action only if it is in the company of, or has the tacit consent of, a great power(s).

In summary, strategic surprise in the form of an unanticipated Arab attack is the main consequence of a choice of whether or not to mobilize.

1. All likelihood statements that follow refer to Israel's perceptions of probability, i.e., their subjective probability estimates.

In considering options of strike or wait, Israel's leaders took into account multiple considerations: should Israel choose to strike, the two primary consequences are Soviet intervention and U.S. support; should Israel choose to wait, the two main consequences are Arab attack and, after 24 May 1967, an international flotilla. Combinations of such consequences yield outcomes for choice. Underlying mobilization outcomes are military security and economic value dimensions. In addition to these two dimensions, the choice to preempt includes the dimensions of international support and domestic politics.

Decision Analysis

Given the specification of consequences for choice, an appropriate tool for evaluation of the rationality manifest in mobilization and preemption is decision analysis. This method may be discussed in terms of its purpose, value conflict, utility measurement, validity, reliability, rationality, and risk. The purpose of decision analysis is systematic evaluation of options as a basis for choice among them, considering another party's choices as part of an uncertain environment. It attempts to decompose the logical glue used to paste together choice and its consequences (Raiffa, 1968:271). Decision analysis can be shown in the form of a decision tree or a diagram to display the anatomy of a problem. The diagram provides immediate actions, uncertain events, and assumed effects of such events on future choice (Schlaiffer, 1969:37). Decision analysis relies on numerical probabilities that represent judgments about uncertain future events and quantitative estimates that express values of relevant choosers. The probabilities are for logically possible outcomes given each action. Finally, there is a designation of a single alternative to be preferred under model assumptions (Brown, Kahr, Peterson, 1974:vii).

A distinctive feature of decision analysis is its ability to handle subjective uncertainties and utilities of decisionmakers. Unlike operations research, decision analysis provides a normative framework for dealing with perceptions. One important type of perception concerns value conflict within a decisional unit. In this regard, decision analysis is an approach to prescribing choice when policymakers emphasize the competition within their own national environment rather than *vis à vis* another state's decisionmakers. Game theory, on the other hand, focuses on competition between two actors: the outcome of decisions by one actor is dependent on choices by the other party. Unlike game theory, decision analysis can be used to evaluate choice when the process is not interdependent. Decisionmakers may face, for example, a competition between minimizing economic costs and maximizing national security. They may try to achieve such goals but are constrained by the necessity to make trade-offs (cf. Churchman et al., 1957:517 ff.). For such a situation, decision analysis is an

appropriate procedure. Indeed, benefits of decision analysis are in the identification and communication of value conflicts. Sensitivity analysis, moreover, might demonstrate that value conflicts are not as important as they appear at first glance, since choice may be insensitive to such alterations in the values that reflect value conflicts among decisionmakers (Fischer, 1975).

The decision analysis approach to value trade-offs is via multiattribute utility measurement (Edwards et al., 1977:20; Fischer, Edwards, and Kelly 1978:61; Fischer, 1977:9). A basic idea of the multiattribute technique is the partitioning of preference into dimensions of value and the rank ordering of outcomes along each dimension. Since each option may not be better than all others along every dimension, value trade-offs may need to be calculated. By obtaining relative comparisons for pairs of outcomes on each dimension, one is able to convert rank orders into quantitative magnitudes of utility (cf. Wagner, 1974).

The resulting utility estimates are tentative pending validation. For example, one approach to multiattribute validity is to assess the degree to which there is convergence of utilities inferred from different methods, i.e., convergent validation (Edwards, John, and Stillwell, 1977:12).[2] The approach of the current study, however, is to ascertain the extent to which different coders derive approximately the same utility magnitudes using the same coding rules. That is, this inquiry discovers the reliability of its scaling procedures rather than the validity of the underlying utility concepts (cf. Fischer, 1977:11).

Implicit in the above discussion of value conflict, utility, and validation is the idea of rationality. A rational process ensures that a conclusion is logically consistent with personal judgmental inputs, utility measurement, and probability theory (cf. Brown et al., 1975:ii). The descriptive validity of rationality as a criterion for choice is subject to widespread debate. Decision analysis is of two minds regarding rationality. On the one hand, decision analysts assume that individuals are capable of stating their beliefs as numerical probabilities and are able to make complex value trade-off calculations. On the other hand, analysts acknowledge that individuals are incapable of choosing rationally and therefore need decision aids to facilitate a rational choice process. A key to resolving the decision analysis paradox (Fischer, 1977:7) is the word "capable." Unaided intuitive judgment is incapable of generating probabilities, facing trade-offs, and adhering to normative principles of rational choice (Kahneman and Tversky, 1972, 1973, 1977; Tversky and Kahneman, 1971, 1978; Slovic, 1972; Slovic, Fischhoff, and Lichtenstein, 1977). On the other hand, this

2. For a further explication of the issue of subjective preferences for complex outcomes and conflicting values, see Keeney and Raiffa, 1976; Krantz, Luce, Suppes, and Tversky, 1971.

same literature concludes that aided human judgment is capable of producing numerical probabilities, making trade-off calculations, and following rational choice criteria.

One reason that decision aids facilitate rational information-processing lies in their emphasis upon decomposition. By decomposing complex choices into more manageable components, decision analysis takes into account human incapacity to make unaided judgments in a rational fashion. As decision-making increases in complexity, there are discrepancies between rational expectations and actual behavior. Intuitive inference deviates from probability theory prescriptions. People ignore relevant variables in order to simplify a problem to a scale consistent with their computational limits. Humans rely upon heuristic decision rules that violate rational choice criteria. As a result, policymakers need assistance if they are to choose rationally in complex decision situations (cf. Fischer, 1977:6-7). Without such assistance, decisionmakers would follow their natural tendencies to avoid both uncertainty and value conflict and rely upon combinations of cybernetic and cognitive mechanisms as suggested in Chapter 2.

With respect to the current inquiry, the use of decision analysis takes into account the "constrained rationality" of Israel's leaders during 1967 The study approaches value conflict and utility measurement from the perspective of explicating a technology that could have been of great use in enhancing the quality of choice during the 1967 crisis (cf. Zlotnick, 1968) and that is of immediate relevance for evaluating decision-making in 1967 after the fact. In addition to value conflict, utility measurement, validity, reliability, as well as rationality, a final aspect of decision analysis concerns risk.

In contrast to game theory, decision analysis is applicable to evaluation of risky choice. A decision is risky if outcomes are determined jointly by choice and some specified random process, e.g., a gamble.[3] Where game

3. Formal concepts of uncertainty and risk apply to the estimation of the likelihood of loss for given alternatives. Decision-making under certainty occurs when the probabilities of the consequences of options are either 0.00 or 1.00; these consequences are "known." Such certainty is rare, and decision-making under risk is much more common. In a risky choice, the probability distribution of a consequence is known even though its occurrence is not. A decision to toss a coin, for example, is risky since the probability of heads or tails is known. In an uncertain environment, by contrast, even this distribution of probabilities is unknown, and no a priori estimates can be made. Such a use of uncertainty approximates a concept of decision-making under ignorance: policymakers cannot draw on logical baseline information to make their judgments but may be able to use empirically-based relative frequency data. This formal classification does not capture the nuances of the environment, however, in which most public policymakers work. One category in the typology assumes objective and "knowable" probability distributions. Aside from very restricted and narrowly-defined problems, generally of little interest to central decisionmakers, such a priori probabilities are not available. Moreover, one may question the validity of such a concept of probability: the phenomenological interpretation of this inquiry suggests that all probability distributions are the property of the perceiver rather than the object and are subjective. Once decisionmakers estimate the probability of the consequence of an option—regardless of the information they

theory deemphasizes probability or treats it as a function of payoffs (Ellsberg, 1961), decision analysis can devote equal emphasis to likelihood and value as separate considerations. An expected value model may be incomplete, however, unless it considers such cognitive concerns as decisionmakers' attitudes toward risk.[4] When risk is taken into account, one provides differential weights to probability and value components.

The explanation of Israel's choice to mobilize (Chapter 5) pays particular attention to four cognitive dimensions: probability of deterring an Arab attack; benefit of deterrence; probability of failure to deter; and the cost of failure to deter. These last two dimensions constitute defense considerations. To explain and evaluate the choices of Israel's decisionmakers, their processing and integration of these four risk dimensions should be understood. In other words, the relative importance of probabilities and payoffs of Israel's risk-taking ought to be estimated (cf., Slovic and Lichtenstein, 1968). To determine the relative importance of probability and value dimensions, consider the importance of cognitive beliefs in influencing policymakers' predispositions and the mode of information integration.

Individuals may be predisposed to pay more attention to some risk dimensions than to others. Differential attention to risk dimensions can be explained by a person's belief that certain dimensions are the most important for a particular choice. Decisionmakers of a state with very little territory and great fear of losing it may adopt a defensive position. They may stress the amount of land to lose and base a mobilization choice almost exclusively on this dimension. They thus might discount other information such as the amount of territory to be won, the probability of winning, and the likelihood of losing.

The examination of strategic concepts in Chapter 4 suggests that Israel's decisionmakers emphasized their country's narrow margin of security, given a lack of geographic depth and constant Arab hostility. In the absence of strategic depth and consequent vulnerability of population centers, only a transferral of fighting beyond Israel's frontiers offers protection to the heartland. By an examination of doctrinal concepts alone, Israel's leaders would emphasize the risk dimension—defense or amount to lose—and deemphasize amount to win, probability of winning, and likelihood of losing.

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use and whether or not they are confident of their estimate—their choice must be classified as one of risk. This study works with subjective probability estimates that are consistent with the central assumption of subjectivity as the basis of choice. All national security decisions, then, become risky rather than uncertain choices. Also cf. Alpert, 1976; Milburn and Billings, 1976; and Slovic and Lichtenstein, 1968.

4. In connection with risky choice, Kahneman and Tversky (1977) state that probabilistic gains and losses will be undervalued in comparison with sure gains and sure losses. Nevertheless, one often trades a certain gain or loss, e.g., military advantage, for probabilistic gains or losses, e.g., an increase or decrease in the likelihood of war.

Information-processing also is relevant to the examination of risk dimensions. Despite certain predispositions about the relative importance of risk dimensions, the capacity to use these beliefs when making choices may be very limited. For example, a decisionmaker acting under stress may neglect some dimensions of risk, perhaps depending on some cybernetic priority framework for reducing information overload. The evidence suggests, however, that in their decision to launch a preemptive strike Israel's policymakers considered the two dimensions of amount to lose and likelihood of winning. Since probabilities of losing and winning are inversely related, Israel's decisionmakers may be said to have given approximately equal weight to at least three dimensions: amount to lose, probability of losing, and likelihood of winning.

The psychological literature on the relative importance of probabilities and payoffs in risky choice suggests that value (loss and gain) is more important than likelihood (of loss and gain) in determining a gamble's attractiveness. Second, when decisionmakers confront unattractive bets, loss exerts more influence than gain (Slovic and Lichtenstein, 1968:9-16). In 1967, Israel's leaders paid attention to loss and gain but did not neglect probability. As anticipated by the second proposition, Israel's decisionmakers do appear to have devoted more attention to loss than to gain. The effect on choice of risk predispositions can be assessed by discussing the impact of relative change among value preferences across time as is done in the sensitivity analysis below. Sensitivity analysis permits the evaluation not only of the impact of changes in values on choices, but also of the effect that changes in estimates of probability have on decision.

Sensitivity Analysis

How can one assess the impact of relative change among the value preferences of decisionmakers? Sensitivity analysis is one approach. If decisionmakers are risk-averse regarding preferences, for example, the impact of risk on choice can be evaluated. If choice is indeed responsive to risk preference, sensitivity analysis of the decision would demonstrate the impact of cognitive predispositions on selection among options. In addition, policymakers may consider multiple values like military security, international support, and economic values. Calculating expected value, for example, with and without security considerations would demonstrate the responsiveness of a mobilization choice to security considerations.

In addition to evaluating the impact of changes in value preferences, sensitivity analysis also can assess the effect of new information and different inputs from the environment. If policymakers anticipated more than one consequence, for example, an analyst can explore the responsiveness of choice to each consequence. Israel's decision to preempt in 1967 depends upon Arab attack, Soviet threat to intervene, and

American support. The relative sensitivity of choice to each of these inputs from the environment can be evaluated. Is Israel's choice of a preemptive strike more responsive to a Soviet threat to intervene than to an American warning of a withdrawal of support? Is Moscow's deterrent threat stronger than Washington's attempt to induce Israel to comply? Answers to such queries in Chapter 9 illustrate the use of sensitivity analysis for exercising a model, i.e., for model implementation (Brown, Kahr, and Peterson, 1974:85).

Sensitivity analysis also can be used to explore interdependence among multiple consequences. For example, in considering an option to preempt in 1967, did Israel's decisionmakers consider American support conditional on Soviet intervention? If the probability of U.S. support is higher when Soviet intervention is more rather than less likely, then Washington's support for Israel is conditional on the likelihood that Moscow would intervene against Israel. Sensitivity analysis can assess both the conditional relations among consequences themselves and their joint impact on choice. Sensitivity analysis provides a static approach to the evaluation of the impact of information on choice, while Bayes offers a dynamic tool for analysis.

Bayesian Inference

Bayesian analysis may be discussed in terms of: 1) its relation to a wider body of scholarship; 2) decisional tasks and aids; 3) processing biases and explanations for deviation from optimal inference; and 4) an illustrative application. Bayesian analysis is a part of a predecisional rather than a decisional process *per se*. Where decision analysis concerns prescription or evaluation of static choice, Bayesian inference involves dynamic revision of opinion about likelihood estimates of uncertain consequences for choice. Indeed, Bayesian information-processing can be a link between dynamic process and static choice. As used here, Bayes evaluates the extent to which intuitive revision meets optimal criteria, i.e., Bayesian standards. Information is processed, using Bayes Theorem, in order to update likelihood estimates for eventual combination with value or utility to create expected value or expected utility. Bayes Theorem is an optimal rule for revision of probabilities in view of new evidence.

Prior to explicating Bayes Theorem, it may be useful to nest Bayesian analysis within the context of a wider body of scholarship in the social sciences. During the 1930s, experimental psychology focused upon stimulus-response explanations of learning. In the 1970s, the S-R focus has yielded to work on information-processing in psychology. The stimulus-response approach in political science was manifest in foreign policy decision-making studies during the 1960s. As in psychology, there has been a shift to information-processing types of scholarship, as illustrated by

Simon (1957) and the present inquiry among others. Information-processing studies in political science, moreover, are now considered core concerns of the discipline as they are in psychology. In both fields, one finds a tendency toward research that seeks to close the gap between descriptive and normative types of decision-making. The empirical works are designed to describe beliefs and values of decisionmakers, including explanations of the manner in which people incorporate beliefs and values into decisions. Descriptive scholarship has made outstanding progress in areas like probabilistic judgment, inference, and choice. Normative inquiry prescribes courses of action that are in accord with decisionmakers' beliefs and values. Given findings from descriptive studies about the limits of human information-processing capabilities, normative scholarship has created technological aids that facilitate decision-making. In this regard, there is an increasing perception of a need to effect a synthesis between natural ways humans make inferences and normative logic of probability theory, as illustrated by Bayesian analysis.

The attempt to synthesize descriptive and normative scholarship has been accompanied by a new approach to the role of information in decision-making. During the decade of the 1960s, great advances in computer technology tended to drive theorizing, leading some to suspect that lack of information was the principal barrier to effective decision-making. Computerized management information systems greatly facilitated solutions to technical problems inherent in acquisition, display, storage, and retrieval of data. Since lack of information was not the main barrier to high quality decision-making, management information systems had little impact on policy-making. In light of the limited capabilities of humans as information processors, computer systems were used infrequently in decision-making. It is within the setting of fallible human processors and large-scale computer systems of little use that Bayesian analysis enters the picture.

Four decisional tasks of relevance to Bayes are diagnosis, estimation, revision, and evaluation. Prior to performing a Bayesian analysis, it is important to decompose and diagnose the situation. Problem recognition or alerting is an important aspect of decomposition. In this respect, Bayes assists in diagnosing the environment and thereby reduces the complexity of the inference problem. Once the initial problem is decomposed into manageable elements, Bayes forces the analyst to inquire about the diagnostic meaning of each item of information, given the validity of one or more hypotheses. While the psychological literature is relatively weak regarding problem recognition, it is much stronger on probability estimation and opinion revision. The political science field of national security studies, on the other hand, abounds with scholarship concerning threat perception and early warning as the key issues in problem

recognition yet is relatively silent on estimation and revision. In national security decision-making, threat and warning drive the system. The definition of the situation is more problematic in psychology in contrast to the security studies field of inquiry.

In connection with the second decisional task of estimation, Bayes assists in the process of elicitation of numerical magnitudes concerning likelihood of occurrence for some uncertain event. Probability elicitation is of two types—direct and indirect. Bayes is an indirect elicitation technique. A direct procedure is simply to ask decisionmakers to encode their beliefs as a subjective likelihood. Bayes is a formula for inferring after-the-fact probabilities (posteriors) from initial beliefs (priors) and the occurrence of some event. Considering subjective probability as a degree of belief, Bayes helps analysts to summarize states of information about future uncertainties (Schweitzer, 1978). Bayes allows decisionmakers to formalize their verbal uncertainties as numerical expressions. Since Bayes is a formal language of uncertainty, one is able to display narrative scenarios of the future as likelihoods and perform deductions about future states of the environment via probability theory Inasmuch as Bayes requires numerical expression of beliefs, it encourages a precise statement of relative uncertainty. As a result, analysts have created scales for coding words into numbers, an illustration of which is the Sherman Kent scale, a type of content analysis coding scheme.

Scales for translating words into numbers are a spin-off from an era when analysts were grappling for ways to handle uncertainty. Combined with related techniques, such scales may be considered as aids for opinion revision—a third decisional task. Bayes Theorem itself is a method that provides assistance in the evaluation of prior inference, in the conduct of information-processing, and in the forecasting of alternative futures. The present study employs Bayes as a benchmark in the evaluation of prior processes of inference—the fourth decisional task. Bayes provides optimal criteria with which to compare human intuition. The current inquiry, indeed, compares the unaided intuitive threat revision of Israel's leadership with updates that derive from Bayesian normative expectations. As a decision aid, Bayes facilitates the conduct of diagnosis, estimation, revision, and evaluation. These four decisional tasks are very difficult for humans to perform, given the human tendency to succumb to information-processing biases.

A processing bias lessened through the use of Bayes is conservatism. Conservative revision concerns the human tendency to update more slowly than Bayes demands.[5] Individuals tend to be suboptimal information

5. In addition to conservatism, another information-processing bias of concern here is uncertainty-management. As discussed in Chapter 2, a cybernetic approach to uncertainty is to eliminate it by focused selection on a few indicators with an emphasis on obtaining short-

processors who revise in the right direction but not with the proper magnitude. In other words, humans extract less certainty from data than Bayes requires. Unaided human intuition is not as efficient as Bayes and thus is wasteful in the conduct of opinion revision. Why does conservatism occur? One hypothesis of direct relevance to Bayes concerns misaggregation.[6] People are unable to aggregate information across multiple indicators (Edwards, 1968). As a result of misaggregation, there is a failure to extract as much diagnosticity from data as would be derived if Bayes were used. Considered a decision aid, Bayesian inference provides a formal means of aggregating information, thereby minimizing conservatism and maximizing the ability to extract meaning from evidence.

One means for clarifying conservative inference is to distinguish between strategic assumptions on the one hand and current tactical indications on the other. Analysts of information-processing are not agreed as to the weight that should be attached to prior strategic assumptions relative to current tactical indications. Bayes weights current indications more heavily than original strategic assumptions. As a result, relative to intuitive estimation, Bayesian estimates move up or down more quickly in an attempt to correct for the conservative bias of intuitive judgment. Considering strategic assumptions as cognitive beliefs, information-processing could be determined largely by such assumptions in the absence of a Bayesian approach. By weighting current indications more heavily than strategic assumptions, Bayes quickly revises initial estimates derived from beliefs.

There is a difference of opinion regarding the validity of deemphasizing the role of strategic assumptions relative to current indications. For example, George (1979) considers weighting current indications more than strategic assumptions to be a serious defect of the Bayesian approach. Heuer (1978), moreover, reports that intelligence analysts tend to reject Bayes because it moves their opinions faster than unaided intuitive procedures. In contrast to George and Heuer, Ben Zvi (1976) takes the opposite position: current indications should receive more weight than strategic assumptions in order to modify opinion quickly.

One approach to a resolution of this debate among analysts is to assess the risks of rapid and conservative revision. If the danger of quick change in attitude outweighs the risk of slow alteration of opinion, then Bayes may not be an appropriate tool. Conversely, if the threat posed by failure to shift is greater than the risk of rapid adjustment, then Bayes appears to be

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term feedback from them. Moreover, a cognitive approach to uncertainty is to avoid, deny, or manage it by making categorical judgments. Bayes and the accompanying scales for translating words into numbers facilitate the estimation of numerical probabilities, helping to overcome natural tendencies.

6. A complementary hypothesis explaining conservatism is misperception (Lichtenstein and Feeney, 1968).

appropriate. For example, in a situation where a nation may be attacked and destroyed, the risk of failure to revise is higher than the danger of too rapid alteration of views. Israel's decisionmakers during the 1967 crisis found themselves in a situation where a rapid shift of opinion was necessary, given their perception of a narrow margin of security based upon lack of strategic depth. In other words, the risk-aversity of Israel's leaders resulted in a tendency to favor a sudden modification of their attitudes. On the other hand, leaders of superpowers may be more risk-acceptant concerning alteration of opinion toward each other's intentions. In order to avoid unintended escalation, each side tends to tolerate high indications of threat with little revision of attitudes regarding the likelihood that the opponent is moving toward a first-strike strategy. Risk-aversity among small states in the Middle East sub-system contrasts sharply with risk-acceptance among superpowers in the global arena.

In addition to the debate among analysts on weighting strategic assumptions and tactical indications, there is the empirical issue of how people actually process information. Chapter 2 reviews this debate: evidence that individuals pay too little attention to prior judgment and fail to consider background information (Bar-Hillel, 1977) contrasts with evidence of inertia effects and conservative biases in opinion revision (Edwards, 1968). One possible explanation for the apparent discrepancy in research findings is that individuals appear to attach weight to information in proportion to whether they consider it relevant (Kahneman and Tversky, 1972). Generally, they judge prior estimates more relevant; when tactical indicators are specific, however, they may consider this information to be of greater relevance than strategic assumptions.

In estimating political intent to attack, the problem of conservative bias through strong commitment to strategic assumptions is likely to characterize inference. Bayes then provides a useful corrective to earlier estimates though not to the strategic assumptions *per se*. One should distinguish between enhancing military capabilities to attack and political intent to launch an attack. In changing opinion about military capabilities, current indications concerning such things as troop movements may be perceived as directly relevant. In altering attitudes about political intent, strategic assumptions like the predisposition of the attacker to issue an ultimatum prior to attack may be perceived as directly relevant (Whaley, 1973). Hence, revision of estimates of political intent may proceed more slowly than assessment of military capabilities. For purposes of this study then, Bayesian inference is an appropriate strategy for revising the probability of such political events as the likelihood of an Arab attack.[7]

7. Acknowledgments to Richards J. Heuer for insights regarding differences in intuitive vs. Bayesian procedures.

The preceding discussion places Bayes within the context of a broad area of related scholarship, provides an overview of decisional tasks and aids, and then presents one information-processing bias—conservatism. Given this discussion, an illustrative application of Bayes is now in order.

Consider the situation facing Israel's intelligence in mid-May 1967. On 15 May, one Egyptian division, mostly armor, moved through Cairo to Sinai while Egyptian planes landed at forward bases in the desert. How should Military Intelligence revise its estimate of the likelihood of Arab attack?

According to Bayes Theorem, Israel's analysts should perform the following steps. First, estimate probability of an attack before the Egyptians move; second, assess how likely it would be for the Egyptians to move troops to the Sinai if Egypt were going to attack over how likely it would be for Egypt to move troops if Egypt were not going to attack; third, multiply prior probability times the likelihood ratio to create posterior probability; fourth, use posteriors and new priors for processing the next element of information.

Bayes Theorem incorporates three types of probabilities. The first, a prior or unconditional likelihood of a hypothesis, H, is the probability one assigns before obtaining any information $P(H)$. The second, a conditional likelihood of a datum is one assigned in light of information about a hypothesis H, and is expressed as $P(D/H)$. The third, a joint probability, is the likelihood of two events occurring together—the probability that H is true and that one observes a given datum $P(D\&H)$.

In the illustration of Israel's Military Intelligence reaction to Egyptian movement of forces into Sinai, assume the prior probability of Arab attack as about (.10); the conditional probability of Egypt strengthening its Sinai forces, if it were to attack, is about (.88); the joint probability of the occurrence of a move to the Sinai and an attack, however, is only (.088). The posterior probability to be estimated is the new likelihood of an attack, given Egypt's moving troops into the Sinai, i.e., $P(H/D)$.

The following equations permit calculation of the posterior probability of Arab attack, conditional on an Egyptian deployment of forces to Sinai.

$$P(D/H) = \frac{P(D \ \& \ H)}{P(H)} \tag{8.1}$$

is the definition of a conditional probability of an event D occurring (Egyptian movement of forces into Sinai), given hypothesis H is true:

$$P(H/D) = \frac{P(D \ \& \ H)}{P(D)} \tag{8.2}$$

is the reverse case of the posterior probability of the attack hypothesis being true, given the datum D, Egyptians to Sinai.

By substitution one derives the basic form of Bayes Theorem,

$$P(H/D) = \frac{P(D/H)\ P(H)}{P(D)} \tag{8.3}$$

For example, the revised or posterior probability of Egyptian attack, given Egypt's sending troops to Sinai $P(H/D)$, is equal to: probability of Egypt's sending troops, given that Egypt plans to attack $P(D/H)$ times the original likelihood of attack $P(H)$, divided by the probability of Egypt's sending troops $P(D)$.

For two hypotheses, H_1 and H_2, one can write Bayes Theorem twice.

$$P(H_1/D) = \frac{P(D/H_1)\ P(H_1)}{P(D)} \tag{8.4}$$

$$P(H_2/D) = \frac{P(D/H_2)\ P(H_2)}{P(D)} \tag{8.5}$$

Dividing one equation by the other, the $P(D)$s in the denominators cancel, leaving,

$$\frac{P(H_1/D)}{P(H_2/D)} = \frac{P(D/H_1)\ P(H_1)}{P(D/H_2)\ P(H_2)} \tag{8.6}$$

The right-hand ratio of equation (8.6) is

$$\text{Prior Probability} = \frac{P(H_1)}{P(H_2)} \tag{8.7}$$

The ratio to the immediate right of the equal sign of equation (8.6) is

$$\text{Likelihood Ratio } (LR) = \frac{P(D/H_1)}{P(D/H_2)} \tag{8.8}$$

The ratio to the left of the equal sign of equation (8.6) is the posterior probability in favor of H_1 over H_2, after observing the datum,

$$\text{Posterior Probability} = \frac{P(H_1/D)}{P(H_2/D)} \tag{8.9}$$

In summary,

RATIO OF POSTERIOR PROBABILITY = LIKELIHOOD RATIO X RATIO OF PRIOR PROBABILITY (cf. *Decisions and Designs*, 1977: Appendix).

For the 1967 case, consider the following hypothetical data, expressed in terms of odds rather than probabilities. That is,

NEW ODDS OF ATTACK = MODIFICATION FACTOR X OLD ODDS OF ATTACK

The prior odds of Arab attack are about one to nine (1:9). Israel's intelligence then estimates that it is eight times as likely for Egyptians to

move into Sinai if they were going to attack than not going to attack (8:1).[8] Thus, prior odds (1:9) times likelihood ratio (8:1) = posterior odds (8:9). As can be seen, there is a dramatic increase in the odds of attack from (1:9) to (8:9). To translate odds to probabilities (De Francesco, 1975:317) use:

$$\text{Probability} = \frac{\text{odds}}{\text{odds} + 1} \tag{8.10}$$

$$= \frac{8/9}{8/9 + 9/9}$$

$$= \frac{8}{17}$$

$$= .47 \text{ or } 47\%$$

The prior odds of (1:9) translate into a probability of 10%; likelihood ratio odds of (8:1) translate into 88% probability; posterior odds of (8:9) convert to 47% probability.

In summary, Israel's intelligence would update the likelihood of Arab attack from some 10% to about 47%, in light of the information concerning Egyptian reinforcement of troops in Sinai. The posterior probability could then be used as a prior probability for a new piece of information. For example, Egyptian closure of the Straits of Tiran on 23 May 1967 could be used to create a new likelihood ratio for combining with prior odds; then one could reestimate a new posterior probability of Arab attack in light of the closure of the Straits.

The use of Bayesian inference as an iterative method of updating opinion allows one to assess the impact of each item of new information on choice. In this way, one can establish the sensitivity of choice to each item of information. Bayesian analysis also requires that an analyst state explicitly assumed cause and effect relations. In the illustration about Egyptian troops to Sinai, $P(D/H)$ implies that sending troops (D) depends upon (is caused by) a certain disposition to attack (H).[9] In other words, the use of Bayes requires an analyst to combine assumptions and events into hypotheses. For example, the assumption about what Egypt would do if it were going to attack is combined with the actual movement of troops into Sinai.

In short, the application of Bayesian inference to the *ex post facto*

8. Confining oneself to only two hypotheses—attack or not attack—may be unrealistic. On the other hand, evidence discussed in Chapters 5-7 suggests that these are the two principal hypotheses considered by Israel's leaders during the 1967 crisis.

9. A strict constructionist view holds that Bayes is only applicable when there is the expectation that H causes D. If the datum is not considered a consequence of the hypothesis, then Bayesian inference would be inappropriate. For example, assume the Egyptian troop movements are caused by something other than the hypotheses of attack or not attack; Bayes is applicable if one includes as hypotheses the other causes of the troop movements. That is, Bayes can be used with any number of hypotheses.

revision of the probability of an attack by Egypt does not assume that Israel's decisionmakers followed such procedures. Rather, Bayes serves as a useful evaluative tool since it demonstrates the way decisionmakers should have combined prior information with current indications to revise their opinion. As decision analysis evaluates the efficiency of choice and as sensitivity analysis examines the responsiveness of decisions to probability and value dimensions, so Bayes can update information and assess its impact on choice. It remains only to describe the strategies of data acquisition used in conjunction with these methods of analysis.

Data Acquisition

Data on estimates of probability and value are acquired both through content analysis and, where necessary, the use of surrogates for decisionmakers, i.e., individuals trained to simulate the estimates of a leader. As a first step, all primary sources were searched to locate statements of probability and value. Verbal estimates were translated into numbers through the Sherman Kent scale, which provides a procedure for coding words into numbers.[10] At first glance, the validity of the scale for coding words into numbers may be questioned on the basis of the method by which it was constructed. Because there has been considerable variation in the response of intelligence analysts when they were asked to translate words into probability estimates, Sherman Kent, then director of national estimates of the Central Intelligence Agency, suggested a range of probabilities for given verbal descriptors. The validity of the assigned range, however, has not been ascertained as far as is known from available documentation. One could infer that the variation in the estimates reduces their usefulness. On the contrary, the numerical range for each verbal descriptor provides an opportunity to conduct sensitivity analysis on minimum and maximum magnitudes for a given word. The word "unlikely," for example, varies between .15 and .45 on the Kent Scale. In a sensitivity analysis, one could discover if choice is responsive to the uncertainty indicated by such a range. In addition, it may be advisable to use a scale based on the judgments of Israel's analysts, rather than to employ an American scale. In the absence of such a scale during the time the present research was conducted, the Kent Scale provides a useful approximation for translating words into numbers—a form of content analysis. The resultant estimates were assessed for reliability by conducting interviews with participants in Israel's 1967 decision process during 1977, ten years after the crisis studied here.[11]

10. See *Decisions and Designs* (1977) for a copy of the Sherman Kent Scale.

11. The procedure was as follows. Phrases used to infer probabilities were presented to ten senior-level officials in Israel's Foreign Ministry during March 1977. Using the Kent Scale, the range of their coding is approximately ±5% of the estimates used in the present analysis. In

Although a search of primary documents produced verbal estimates of probability and value, statements that estimated the relative weights among dimensions of value were much less frequent. Two individuals trained to act in place of actual decisionmakers estimated the relative distance between pairs of outcomes as a means of approximating an interval scale of measurement for each dimension of value.[12]

In summary, the design consists of procedures for measuring value and likelihood as a preliminary to the evaluation of the mobilization and war choices made in 1967 Decision analysis is an appropriate procedure for evaluation given evidence of some analytic component in the process of choice among competing goals. Despite a propensity to risk-aversity, Israel's decisionmakers emphasized both probability and value dimensions in their processing of choice. An expected value model, modified to account for risk propensity, can be used to assess the approximate rationality of choice. The model is specified through reference to the relevant beliefs and strategic assumptions of decisionmakers. The sensitivity of choice to variation in estimates of probability and value is to be assessed, and the rationality of inference will be evaluated through Bayesian analysis. The quantitative analysis in the following chapter is offered as a first step in the evaluation of choice: the estimates themselves are tentative approximations rather than precise magnitudes. In this respect, the stress is upon relative proportions instead of absolute figures. Although numerical estimates appear, the main product is a set of decision aids relevant to the evaluation of inference and of choice.

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addition, these officials took part in the creation of a Hebrew version of the Kent Scale—the Ben Yehuda Scale named after Hemda Ben Yehuda, who was assisted by Sarah Vertzberger. Both were participants in Raymond Tanter's Advanced Research Methodology Workshop in the Department of International Relations at the Hebrew University during 1977.

12. Co-author Raymond Tanter and research assistant Robert Olender independently coded relative distances between pairs of outcomes and reached a consensus for the final estimates. See the Appendix for a guide to the methodology of scale construction. Assessment of the value scale proceeded in a similar fashion as regards the probability estimates. Ten officials of Israel's Foreign Ministry participated in an experiment during March 1977. They estimated the relative distance between pairs of outcomes on the decision trees in Figures 9.4 and 9.8. The average deviation between the estimates used here and the officials' judgments is in the ±10% range. That is, this study's scale could be off by as much as 10% in either direction. In order to discover whether such variation affected the results, re-analyses were conducted using the Foreign Ministry estimates: the results remained the same indicating that the 10% deviation is unimportant.

chapter 9

The Evaluation of Revision and Choice

Given the decision model specified by doctrine, it is possible to display the anatomy of choices faced by Israel during the 1967 crisis. This chapter considers the following decisions: 19 May choice of mobilization; 23 May decision to delay; 28 May decision to delay; and 4 June choice to strike. The analysis for each decision presents an overview of the selection, the structure of choice represented as a decision tree, dimensions of value underlying the expected outcomes on the tree, probabilities of consequences for options, and revision of the probabilities. The Bayesian ideal is used as a benchmark for evaluating the unaided opinion revision of Israel's leadership. Impact of information, sensitivity analysis, and cognitive attitudes toward risk are discussed at the end of the chapter.

19 May: The Choice to Mobilize

The general mobilization decision discussed at the conclusion of Chapter 5 is an example of a choice that follows a cognitive-analytic path (Table 5.3). Between 16 and 19 May, Prime Minister Eshkol and Chief of Staff Rabin confronted a situation for which they identified an option of general mobilization. The principal input for such a choice was the risk of an Arab attack. Defining risk as the probability of loss, principal dimensions of risk for the 19 May choice are likelihood of deterrence failure and cost to defense if deterrence fails (Table 5.4). An Arab attack constitutes deterrence failure. An indicator of attack is increased concentration of Egyptian forces in the Sinai. Figure 9.1 contains the structure of choice on 19 May 1967 Moving from left to right, the "act fork" in the square designates what is under the actor's control, i.e., to mobilize or not. The "event forks" in the two circles in the middle represent consequences to be influenced or inputs for mobilization choice. The circles on the far right display expected outcomes of choice. For example, outcome A is to be read as follows: "Israel mobilizes and there is an Arab attack."

Outcomes A-D may be ordered on the two dimensions of value decisionmakers took into account--economic cost and military security. Since mobilization costs money, an obvious dimension of value is an

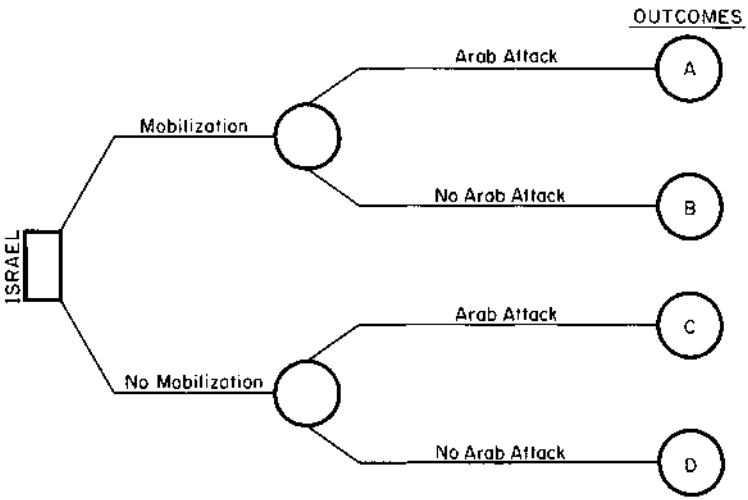


Fig. 9.1. 19 May 1967 mobilization choices

economic scale.[1] In addition, a main purpose of mobilization is to reduce losses in case of an Arab attack, which implies a military security dimension of value.

To estimate the mobilization cost indirectly, one can employ the following procedure.[2] According to the chairman of the Supreme Emergency Commission in Israel, the economy operated at seventy percent capacity during the period of mobilization. Industrial production in June 1967 was twenty per cent below the level of May, which was slightly higher than the level prevailing in the previous four months. (Monthly statistics reflect production levels of the previous month.) In July, industrial production returned to its prewar level, indicating a reduction in industrial output of about $45 million. The loss of production in the economy as a whole from mobilization is thus about 1.5 percent of the GNP for 1967, roughly $60,000,000[3]—the cost of the status quo if Israel were to remain mobilized. $10,000,000 is added to the $60,000,000 to allow for a correction

1. The 19 May 1967 general mobilization withdrew about 250,000 persons from the labor force, bringing the economy of Israel almost to a standstill (Brecher, 1975:325-326). See also Ch. 5, and Table 5.4.

2. Acknowledgments to Judith Shribman for assistance in estimating the economic costs of mobilization and war choices.

3. Israel's GNP for 1967 was about $4,000,000,000 (Brecher, 1972:103).

factor for the approximate costs of mobilizing personnel and equipment. Thus, the economic cost of B is about $70 million or the sum of the production and mobilization costs.

The cost of the war itself is about $567 million, a figure provided by a Government of Israel Finance Ministry announcement published in the *Israel Economist* immediately after the war (Kanovsky, 1970:42). According to this publication, the war costs were IL. 1,700 million ($567,000,000).

The $60,000,000 opportunity cost for loss of production is subtracted to avoid duplication, and thus the net cost for outcome A is $507,000,000. It is interesting to note that the $567,000,000 figure is very close to the estimate presented in the *U.S. Armed Forces Journal* (1973) which indicated the cost of the war to be $100,000,000 a day. Subtract the $60 million production costs and $10 million mobilization costs to obtain a figure of $497 million for additional losses due to war. It must be remembered that this war-cost figure applies to a situation where Israel strikes first. Outcome A, on the contrary, defines a situation where Israel mobilizes and Arab armies attack. Assuming it would take twice as long for Israel to win a war which begins with an Arab first strike, the estimate for economic loss in outcome A is $1,064,000,000. This figure represents the mobilization and production costs added to double the direct war costs. The greatest economic cost to Israel occurs in outcome C, where Israel is attacked without its forces mobilized. Assuming that it would take Israel about one-third longer to win a war under these circumstances, the loss in outcome C is $1,395,000,000. This total is obtained by adding some 30% of the doubled war cost to the economic cost estimate for outcome A. The first column of Figure 9.2 presents the outcomes with their approximate economic costs.

In contrast to economic costs, it is not possible to translate the military-security dimension directly into monetary units. For Israel, military security means a great deal more than just personnel and equipment. The value of life is greater than the actual cost one would derive in a standard cost-benefit analysis. Israel's acute manpower shortage and intangible emotional value attached to life are extremely difficult to measure in terms of monetary units. In other words, the utility of not losing a soldier is perceived by Israel's decisionmakers as greater than the dollar "replacement" cost of a soldier.

Taking into account the difficulty involved in translating military security into quantitative units, it nevertheless may be done since the results are used in combination with other evidence rather than in isolation. For example, military security is weighted according to the leaders' perceptions of the relative importance of value dimensions and then translated into equivalent dollars; rather than using such estimates in isolation, the magnitudes for military security are combined with an economic scale to

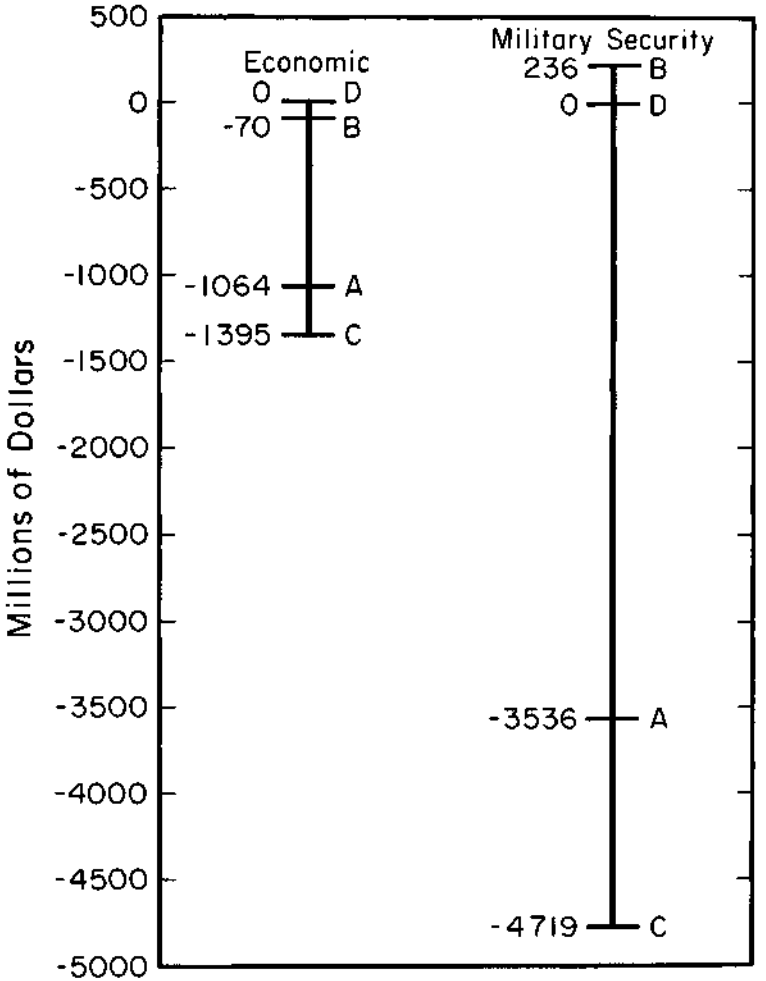


Fig. 9.2. Dimensions of value: 19 May 1967 decision to mobilize

create an overall indicator of value. Irrespective of the initial validity of the military security measure, its validity should be enhanced when one takes into account both dimensions. In short, interpret the quantitative estimates of military security, international support, and domestic politics as tentative approximations of relative magnitudes rather than as absolute figures.

With the above caveats in mind, consider a definition of military security based upon the discussion of Israel's strategic doctrine in Chapter 4. Military security emphasizes defense and deterrence. Military security is the capability to defend Israel should deterrence fail, so that there are minimum casualties among Israel's soldiers. Given this definition, military security may be transformed into numerical estimates on an interval scale of measurement. A first step is to rank the outcomes along the dimension and then to estimate approximate relative distances between pairs of outcomes. Two coders independently estimated the most desired outcome to be B, that of mobilizing and no attack. Consistent with the definition above, outcome B enhances the defensive aspect of military security while reducing the expected number of casualties should deterrence fail and war occur. Outcome D is next—not mobilizing and no Arab attack. Following D is A, mobilization and an Arab attack, then C, no mobilization and an Arab attack; outcome C assumes that it would have been more damaging to military security for Israel to fight a war without prior mobilization. In summary, the rank order on the military security dimension of value is B, mobilization and no Arab attack; D, no mobilization, no Arab attack; A, mobilization and Arab attack; followed by C, no mobilization and Arab attack. See Table 9.1 for military security relative distance estimates concerning the mobilization choice.

It may be useful to compare across the dimensions of value in Figure 9.2. The most preferred outcome on the economic scale (D) is the second most desirable outcome on the military security scale. The total worth for a given outcome can be estimated by summing its value on each dimension. By summing across dimensions, one simplifies complexity, i.e., one creates an overall measure of value. Such an arithmetical operation accords with the definition of complexity provided in Chapter 2. The overall worth of outcome A, mobilization and Arab attack, after combining the economic value with the military security estimate, is about \$4600 million "equivalent dollars": Israel's decisionmakers would pay approximately that sum to avoid outcome A, mobilization and Arab attack.[4]

4. An alternative assumption could have guided the analysis. If one assumes that destruction of Arab armies enhances Israel's security, then one would have Arab attack outcomes that are less costly to Israel. Rather than costing \$1300 equivalent million, for example, outcome A might be less negative in magnitude. If one codes positive value to Israel's security from destruction of Arab armies, the results reported below nevertheless remain the same.

TABLE 9.1

Relative Distance Calculations—Military Security—Mobilization

Military Security Ranking

B
D
A
C

Relative Distances

BD = 1/15 DA
DA = 3AC

Relative Distance in Terms of X

BD = X
DA = 15 X
AC = 5 X
21 X = 100
X = 4.76
B = 100
D = 100–X
= 100–4.76 = 95.34
A = 95.34–15 X
= 95.34–71.43 = 23.91
C = 23.91–5 X
= 23.91–23.91 = 0

Utility Scale

B = 100
D = 95.34
A = 23.91
C = 0

Neutral Value = 95.34

B = 100–95.34 = 4.76
D = 95.34–95.34 = 0
A = 23.91–95.34 = –71.43
C = 0–95.34 = –95.34

Utility Times Weighting Factor[a]

B = 4.76 × 3.3 = 15.7
D = 0 × 3.3 = 0
A = –71.43 × 3.3 = –235.7
C = –95.34 × 3.3 = –314.6

Economic Costs

D = 0
B = –70,000,000
A = –1,064,000,000
C = –1,395,000,000

Total Value (Economic Plus Military Security[b]*)*

A = .4600
B = 166
C = .6114
D = 0

[a] Equivalent $15 million
[b] Equivalent $10 million

With respect to relative weights among dimensions, the procedure is to use the data from a content analysis produced for an earlier study of Israel's foreign policy.[5] A seven-point Advocacy Statement Scale is employed for the purpose of coding statements of Israel's leaders during the May-June 1967 crisis.[6] Table 9.2 contains the scale, frequency of coded statements, and a categorization of each item according to the respective

TABLE 9.2

ADVOCACY STATEMENT SCALE[a]

Frequency of Statements	*Scale Item*	*Value Dimension*
90	The survival of Israel is in jeopardy in light of Egypt's massing of troops in the Sinai; we must take action immediately.	Military Security
39	We must prevent at all costs the closing of the Straits of Tiran.	Military Security and Economic
85	The Western Powers will do nothing; we have no one to rely on but ourselves.[b]	International Politics
5	Morale is sagging; we must restore national self-confidence.	Domestic Politics
10	We should wait another week to give the maritime states time to organize a flotilla.	International Politics
47	We will lose the sympathy of the world if we act before all efforts at peaceful settlement have been exhausted.	International Politics
1	We must not strike first. We need international support if we have to act alone.	International Politics

[a] Stein (Brecher, 1975:351-352) counted statements of Israel's leaders and coded them according to the particular scale item. The authors of this study categorized by consensus the items into value dimensions, and they used Stein's data for estimating the relative importance among dimensions.

[b] The third item is the opposite of what one usually means by international support, i.e., it is an isolationist position. Nevertheless, the present inquiry aggregates such a "go it alone" posture with an attitude which expresses a need for support because both address an overall international political concern in contrast to military security.

5. Stein constructed the seven-point advocacy scale as follows. All foreign policy speeches in English and in Hebrew were collected. An advocacy statement was defined as one that urges a course of action or policy for Israel. Such a statement usually contained the verb "must" or "should." Two judges extracted advocacy statements from the speeches. Reliability in extraction was verified at 81 percent. The scale included seven items, initially developed on the basis of Stein's area expertise and subsequently checked for face validity by Michael Brecher. The validity of the scale was assessed by four judges using the pair-comparison method. The rank-ordering indicated high validity as manifest in the concurrence of three out of four judges across seven categories. All statements were placed on separate cards; the names of countries, places, and leaders were masked. The statements were ranked on the scale, and inter-coder agreement was calculated as 84 percent. For further details, see Brecher, 1975:351-352.

6. Advocacy statements are uniquely appropriate for inferring actors' judgments concerning value dimensions: to the degree that one advocates something, to this extent is that phenomenon important. All cabinet members are considered equally important and as having similar opportunities to make coded statements. Sequence of statements and interrelationships of the positions are not taken into account.

dimension of value the item taps. The scale contains four dimensions of value: military security, economics, domestic politics, and international politics. Since the scale applies to the entire 1967 crisis (e.g., 16 May-4 June), it contains more dimensions than the two used for the mobilization choice, which covers only the 16-19 May period. There are 129 statements concerning military security and 39 involving economic value; hence, the relative importance may be estimated by dividing 129 by 39, which equals 3.3. This figure is used to weight the equivalent dollar value of military security in Table 9.1.

The use of content analysis to weight values may seem dubious to some. What are the alternatives? Failure to weight is one option, but it assumes that all dimensions are of equal weight. Part Two of this study presents overwhelming evidence that military security is more highly regarded than economic value among Israel's decision-making elite. Since the weights from the content analysis conform with the authors' own area specialist knowledge of Israel, the content analysis may yield valid results. Nevertheless, a main point of contention remains: is it possible to infer the importance leaders attach to values by discovery of the relative frequency with which they mention these values in public discourse? According to ten officials in Israel's Foreign Ministry in March 1977, the answer is yes. That is, there are few differences between the public statements and private views of Israel's leadership. One reason for the convergence is because private opinions regularly appear in public newspapers in Israel's open society. In addition, the ten officials agreed with the weightings used here. The issue of whether content analysis can be used to estimate relative importance among values raises the question of the general validity of content analysis as a tool for making inferences: to the extent that one is able to make causal connections between underlying concepts and observables, content analysis may be an appropriate procedure. Independent verification as practiced here is one method for assessing the validity of the rankings derived from the content analysis.

Now that value has been approximated, consideration can be given to the estimation and revision of probability. Chapter 5 considers that the phrase "almost no chance" best fits the description of the premobilization perceptions of the likelihood of Arab attack. This estimate is supported by evidence drawn from *ex post facto* reconstructions by the principal decisionmakers themselves. For example, the chief of staff during the 1967 crisis, Yitzhak Rabin, said after the war that:

> In May 1967 there was no atmosphere of cooperation in the Arab world and it was impossible to suppose that in this setting the Arabs would strike against us (1972).

In an interview four months after the war, Prime Minister Eshkol echoed Rabin's view, remarking that:

> The calculation of all the great luminaries as well as of the lesser military lights were—Nasser will not fight before 1970, maybe not even during the first years after 1970 (1967b).[7]

On the Sherman Kent scale of assigned probabilities, perceptions of Israel's leaders prior to the Egyptian mobilization would be coded under "almost no chance," or a probability between two percent and ten percent (.02-.10). The higher figure is used to reflect Israel's leaders' tendencies to act on the basis of the worst possible contingency, a tendency toward risk-aversity discussed in Chapter 4.

In the revision of opinion between 16 and 19 May, three important events constitute data for changing Israel's leaders' estimates of the probability of Arab attack: Datum (D_1), Egypt demanded the withdrawal of UNEF on 16 May, a UN spokesman agreed on the eighteenth, and Egypt forced UNEF out of key positions; (D_2), Egyptian aircraft overflew Israel's nuclear installation at Dimona in the Negev Desert on 17 May; (D_3), Egypt redeployed troops (one infantry brigade and two armored battalions) from Yemen on 19 May. Bayesian analysis procedures may be used to revise the initial probability of attack in light of these three events.

In Bayesian analysis, a ratio of prior or initial probabilities is updated by a likelihood ratio to create a set of new posterior or after-the-fact probabilities. The posteriors then can be used as new priors to combine with the next likelihood ratio. The posteriors themselves may be considered as the odds or chances of one hypothesis (H_1) being true in contrast to the opposite hypothesis (H_2) being true.[8] Although Bayes is not confined to two hypotheses, the present analysis employs only two since these were the only ones of immediate concern to Israel's leadership during the 1967 crisis.

Table 9.3 contains the Bayesian revision of probability of Arab attack for the mobilization decision from 16 to 19 May 1967. The prior likelihood of Arab attack is about .10. The first datum, (D_1), concerns the set of events surrounding the Egyptian demand for the United Nations' Emergency Force removal, Egyptian takeover of former UN posts such as Sharm el-Shaykh, and the UN secretary-general's statement promising complete withdrawal of UNEF Israel's strategic concepts are relatively silent on the impact of the withdrawal of UNEF on chances of attack. There is, nevertheless, "diagnosticity" in the entire set of events, i.e., the probability of attack increased dramatically after these events occurred.[9]

7. Statements like those of Rabin and Eshkol represent strategic assumptions or cognitive beliefs that serve as a point of departure for estimating prior probabilities.

8. The posteriors are normalized by summing the numerator and denominator, dividing the numerator by the total, and subtracting the result from 1.0 to create the new denominator, which becomes a probability rather than odds of occurrence. See Appendix for transforming odds to probabilities and vice versa.

9. Diagnosticity refers to the impact of data on the truth of hypotheses. As with the

TABLE 9.3

PROBABILITY OF ATTACK UPDATES: 16-19 MAY 1967

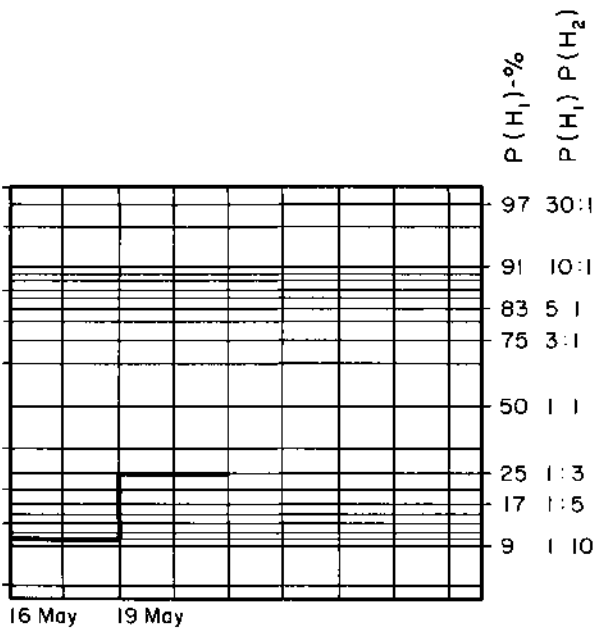
Event	*Priors*	*Likelihood Ratio*	*Posteriors*	*Normalized*
D_1 Egypt Demands UNEF Withdrawal—16 May				
Update:				
$\frac{H_1}{H_2}$	$\frac{.10}{.90}$	$\times \frac{.70}{.50}$	$= \frac{.07}{.45}$	$= \frac{.13}{.87}$
H_1 = Arab Attack				
H_2 = No Arab Attack				
D_2 Egyptian Overflight of Dimona—17 May				
Update:	$\frac{.13}{.87}$	$\times \frac{.55}{45}$	$= \frac{.0715}{.39}$	$= \frac{.15}{.85}$
D_3 Redeployment of Troops from Yemen—19 May				
Update:	$\frac{.15}{.85}$	$\times \frac{.85}{.45}$	$= \frac{.1275}{.3825}$	$= \frac{.25}{.75}$

The surrogate coders estimate that the probability of observing the datum D_1 if H_1 is true (Arab attack) is about .70. The probability of observing D_1 if H_2 is correct, however, is approximately .50. The priors of .10/.90 times the likelihood ratio of .70/.50 yield an unnormalized set of posteriors of .07/.45 and a normalized ratio of .13/.87. That is, the prior probability of Arab attack moves from 10% to 13%, given the Egyptian demand and events surrounding UNEF's removal (D_1). The Egyptian overflight of Dimona (D_2) causes even less revision of opinion than the UNEF events. On the other hand, the redeployment of troops from Yemen (D_3), results in a dramatic shift, i.e., about a 92% increase in the probability of attack (from 13% to 25%).[10]

Figure 9.3 displays the mobilization revision on "log-odds" paper, which

estimation of value, it is not possible to get direct judgments by the decisionmakers themselves. Thus, research assistant Olender initially coded statements or inferred from the relevant literature probabilities for hypotheses and likelihood ratios. Co-author Tanter independently coded the same statements, and the mean estimate is used when the two coders disagreed. The coding rules regarding statements come from the Sherman Kent scale. In the absence of statements, the coders used the following procedure: (1) if it is equally likely that an event would occur given the truth of an hypothesis, code the datum as .50; (2) if it is more likely to observe an event, given the truth of an hypothesis, code the datum as greater than .50; (3) if it is less likely to observe an event, given the truth of an hypothesis, code the datum as less than .50; (4) if no information is available to justify a coding greater or less than .50, code the datum at the .50 magnitude. Since virtually all of the codings are based in part upon some empirical statements, the validity of the coding based upon the Kent Scale is better than the case would be in the absence of such firm grounding. Tables 9.3–9.6 contain empirical statements for each of seven events as they impact on the probability of Arab attack.

10. The absolute magnitude of the difference is only 12%, but the relative change is 92%. Relative change equals $(t_2-t_1)/t_1$, where t = time.



Prior Probability	x	Likelihood Ratio D_1	x	Likelihood Ratio D_2	x	Likelihood Ratio D_3	=	Posterior Probability	Normalized Value
$\frac{H_1}{H_2}\ \frac{0.10}{0.90}$	x	$\frac{0.70}{0.50}$	x	$\frac{0.55}{0.45}$	x	$\frac{0.85}{0.45}$	=	$\frac{0.1275}{0.3825}$	$\frac{0.25}{0.75}$

H_1 = Arab Attack

H_2 = No Arab Attack

D_1 = Withdrawal of UNEF Request, etc.: 16 May

D_2 = Overflight of Dimona by Egyptian Aircraft: 17 May

D_3 = Egyptian Troops Recalled from Yemen: 19 May

Fig. 9.3. Plot of probability of attack updates: 16 19 May 1967

has the effect of reducing the tendency for conservative revision. The probability of attack is on the left-hand side, the ratio of H_1 (attack) to H_2 (no attack) is on the right-hand side, and time is on the horizontal axis.[11] In summary, the probability of Arab attack shifts from 10% to 25%, given the UNEF events, the overflight of Dimona, and the redeployment of Egyptian troops from Yemen. In other words, there is an increase in the probability of attack of 150%; the odds of attack shifted from about 1:9 to 1:3, from one chance in ten to one chance in four. Using content analysis as a principal tool for the reconstruction and revision of probability and value, one is able to make an assessment of the degree to which choice is expected-value maximizing.[12]

Figure 9.4 evaluates the rationality of the decision to mobilize (cf. Table 5.3). The actual choice is efficient in that Israel's decisionmakers acted to

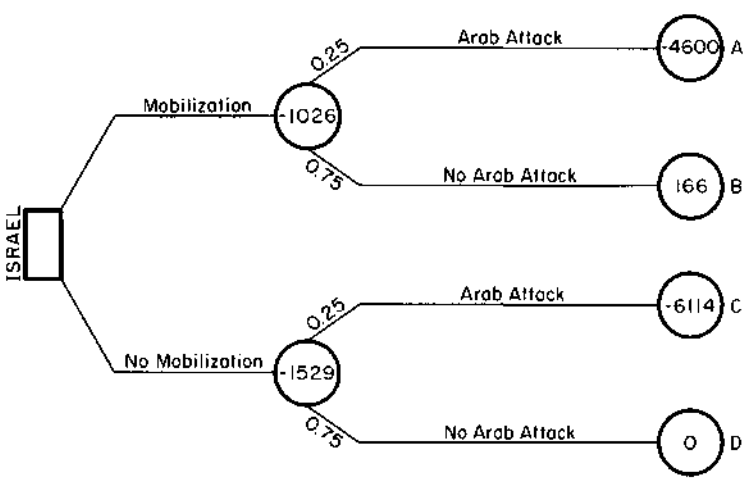


Fig. 9.4. 19 May 1967 decision to mobilize

11. To present the probabilities in terms of logarithmic relations assumes that changes at the lower and upper end of the scale are of more significance than changes at the middle. For example, a shift from 10% to 20% has more impact on changes in odds than a shift from 50% to 60%. In both cases, there is an absolute change of 10%; the first has a relative change in the odds of 5 to 1, while there is less than a 1:1 change in the second case.

12. To validate further the estimates of probability and value, sensitivity analysis may be employed: vary likelihood and value estimates to see if choice is responsive to such changes. Sensitivity analysis, in fact, is used to check the conclusions for the two delay decisions but not for the mobilization or war choices. Since the mobilization and war decisions are overwhelmingly expected-value maximizing, sensitivity analysis would not change the conclusions for these two choices.

maximize expected-value.[13] The expected loss of not mobilizing is about 50% more than that of mobilizing, as is shown in Figure 9.5.[14] For both alternatives, Israel's decisionmakers were choosing between two negatively valued options. This is consistent with mobilization as a defensive response to reduce costs should deterrence fail and with the study's definition of military security and its focus on defense: Israel's decisionmakers considered mobilization in terms of expected loss (defense) rather than expected gain.[15] The 19 May mobilization created two new options for Israel's decisionmakers—to strike first or to wait for a diplomatic solution.

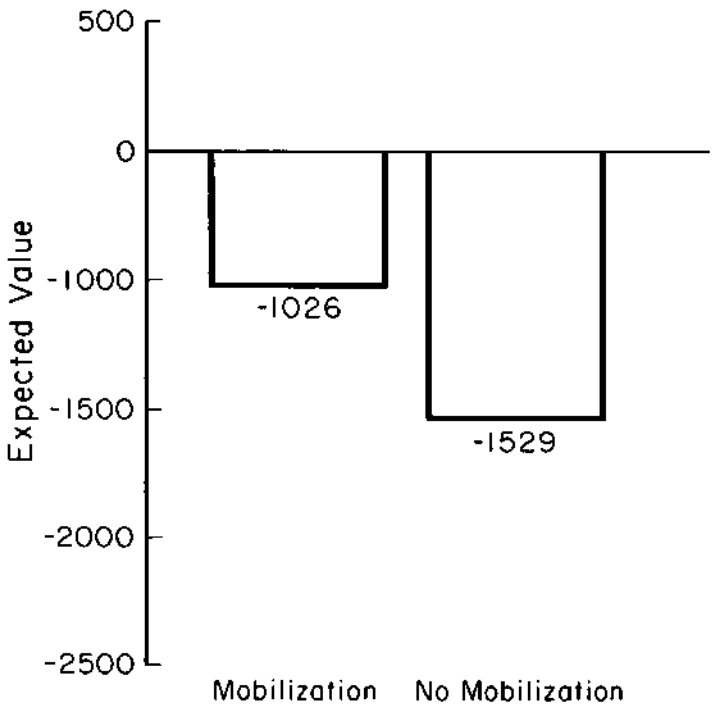


Fig. 9.5. Graph of mobilization option: 19 May 1967

13. To calculate expected-value, multiply probability of a consequence by its value and combine with the product of probability times value for the other consequence(s) of the same option. Repeat the process for the other alternative(s).

14. A focus on the relative rather than absolute magnitudes is in accordance with the notion that the absolute numbers may not be precise while relative proportions are more valid.

15. The most important exceptions occur when decisionmakers choose mobilization as a part of coercive diplomacy or in preparation for preventive war or preemption. A decision tree for Israel's 1956 mobilization choice would probably show a positive expected-value for mobilizing as a preliminary to launching preventive war against Egypt.

23 May: The Choice to Delay

The first delay choice, as Chapter 6 concludes, is an example of a decision that follows a cognitive-analytic path (Table 6.1). Between 19 and 23 May, the cabinet confronted a situation for which it identified two options—to wait for diplomacy or to launch a first strike. Figure 9.6 contains the structure of the decision problem facing Israel's leaders on 23 May. Just as strategic doctrine listed Arab attack probability as a consequence of a mobilization choice, doctrine continues to pinpoint attack as a central input to a delay decision. In addition, strategic concepts specify major-power support in order to deter great-power intervention on the part of an adversary. Arab attack, Soviet intervention, and U.S. support are three consequences of choice (Table 6.2). These three consequences combine with two options—delay and strike—to produce the six outcomes of Figure 9.6.

The outcomes of Figure 9.6 are labeled A, B, C, D, G, and H. Outcomes E and F are omitted because they refer to the flotilla consequence that comes into play after 23 May. One of the six outcomes, A, states that Israel attacks with U.S. support, and there is Soviet intervention. Outcome H, on the other hand, states that Israel delays military action and there is no Arab

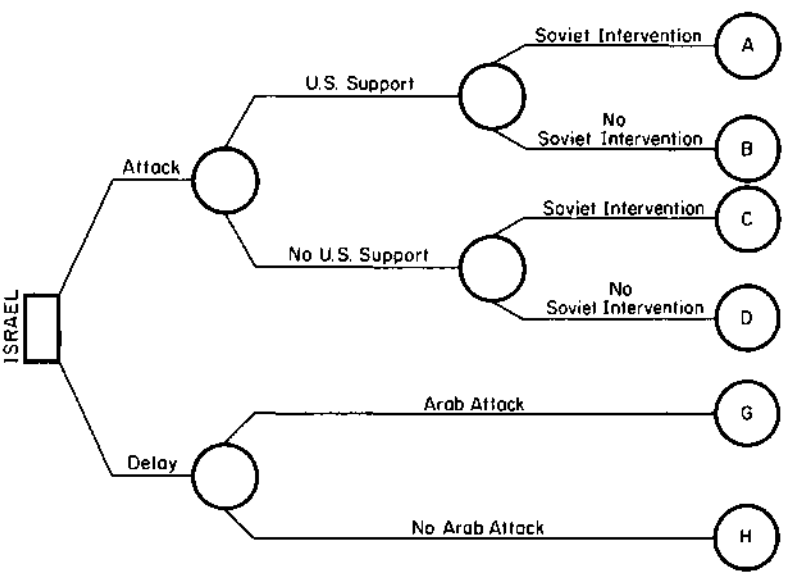


Fig. 9.6. 23 May 1967 delay choice

attack. The dimensions of value underlying these six outcomes consist of an economic dimension, military security, international support, and domestic politics. On the basis of the content analysis, military security would be about 3.3 times the economic scale; international support some 1.5 times the economic dimension; and domestic politics approximately .13 times economic value.[16] The content analysis, however, is for the entire crisis period. On the other hand, the results reported in Chapter 6 imply that international support should be weighted about twice as important as military security for the 23 May choice. The weights used for the analysis of the 23 May decision, therefore, are as follows: international support is 6.6 economics; military security is 3.3 economics; and domestic politics is 1.1 economics.[17] In short, the results from the content analysis for the entire case are not sensitive to the changes that occurred as the crisis evolved. Nevertheless, these data are used as a point of departure to create weights for the 23 May choice.[18]

The economic scale uses $497 million for the cost of war as developed in the discussion of mobilization. The $497 million cost is lowered $5 million for outcomes A and B to reflect the monetary benefits of continued U.S. support (economic assistance). For outcomes C and D, the same logic applies to raise the economic cost of war to $502 million because American aid could be discontinued in the contingency of a cessation in U.S. support. There should be some adjustment in the values for A and C since Soviet intervention would undoubtedly increase Israel's economic losses. However, it is difficult to estimate the added cost perceived by Israel's decisionmakers: there is no evidence that they considered the economic cost of Soviet intervention. Despite their analytic processing of information throughout most of the crisis, Israel's decisionmakers failed to generate retrievable traces of cost estimates for Soviet military intervention. Thus, the economic cost assigned for outcomes A and C are not affected by Soviet intervention. An estimate of $994 million is used for G under the assumption that costs would double if Arab armies struck first. Economic loss, for the wait outcome, which does not result in Arab attack, is set at zero.[19]

16. The relative frequency of statements is as follows: 129/39 is the ratio of military security to economics; 58/39 is the ratio of international support to economics; and 5/39 is the ratio for domestic politics. See Table 9.2 above for additional details.

17. In further support of these weights, Brecher (1975:355) states that military security and international support components are of "overwhelming importance," while the economic and domestic political dimensions became dominant over time. After Dayan joined the cabinet, however, the domestic political component became less important, and hence it is dropped from the 4 June decision analysis.

18. See Table 6.2 for evidence that international support should receive a higher weight than what would be expected from the content analysis data alone.

19. Some might interpret the actual mobilization cost and the subsequent loss of production as continuing costs applicable to later decisions. In this regard, outcome H would be rated non-zero on the economics dimension. On the other hand, an assumption here is that

Using the estimates that translate the economic dimension into dollars as a point of departure, outcomes now may be ranked along the three non-monetary dimensions.[20] Recall the definition of military security as the enhancement of Israel's capabilities in the event of deterrence failure and reduction in expected casualties. Since Egypt began troop concentrations in Sinai, one element of Israel's deterrence had failed; hence, a goal of the leadership was to act in such a way as to minimize the losses should war occur. A preemptive strike would be an instance of taking the offense for defensive purposes. In this regard, outcome B, that of attack accompanied by American support and no Soviet intervention, ranks highest. Outcome A comes next since U.S. support for Israel's attack could neutralize the effects of the USSR intervention. Although such Soviet intervention is defined as military, A is ranked higher than the next outcome D, because the absence of U.S. support is more important than the presence of Soviet intervention. Outcome H, delay with no Arab attack, follows next. Since the army was not fully deployed on 23 May, H ranks higher than outcome C. It is preferable to wait the few extra days necessary to prepare Tzahal than to attack without U.S. support and risk defeat due to Soviet intervention. Although outcome H does not involve war, it is not the preferred outcome because the concentration of Egyptian forces in Sinai would continue to threaten Israel's security. Finally, G is the worst possible outcome; Israel waits and absorbs an Arab attack.

As for the international support dimension, the rankings are based upon the assumption that, if the Arab states attack in G, the United States and its allies would support Israel and the USSR would not intervene. Within this context, outcome G—Israel waits and there is an Arab attack—ranks highest. Outcome H is next because delay is considered much more desirable by the international community than attack. B follows because American support and no Soviet intervention are the best consequences of an attack in terms of international support. Outcome A is next because, although the Soviet Union intervenes, Israel has U.S. support. D follows, since the Soviet Union does not intervene despite the absence of American support. The least desirable outcome is C, where Israel attacks with no U.S.

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the wait decision does not involve additional economic cost, e.g., other than that already taken into account in the mobilization choice.

20. With respect to reliability, the two coders rank-ordered outcomes along the three non-monetary dimensions twice without any differences in results. In addition, an official of Israel's Foreign Ministry rank-ordered the outcomes during March 1977. There is 85% agreement on military support, 70% for international support, and 60% for domestic politics. The procedure was to compare the rankings of the study with the average ranking of the official. Although the percentages of agreement suggest some doubt for particular dimensions, creation of an overall scale should be more valid than each. In addition, the variability makes little difference with respect to the study's conclusions. For example, using the Foreign Ministry official's rank-ordering does not alter the main inferences that mobilization and strike options were expected-value maximizing. No sensitivity analysis using different ranks was conducted on the two delay choices.

support and the Soviet Union intervenes. Although there appears to be some overlap between rankings for military security and international support, there are no ranks in agreement. For example, outcome G is the least preferable on military security and the most preferable on international support.

The last dimension of value in the 23 May decision is domestic politics, the least reliable and the least important factor.[21] On the twenty-third of the month, there was no strong consensus among the public or among relevant civil servants on the appropriate course of action. Under these circumstances, the best outcome on the domestic political level is the one with the fewest negative consequences. B is ranked first on the dimension of domestic politics because of Israel's desire to take the initiative in solving the crisis and because of American support unaccompanied by Soviet intervention. Outcome H, where Israel waits and there is no Arab attack, follows: although there are few positive gains apparent to the public, there are no immediate negative repercussions. (There is, however, widespread disagreement on the ranking for H.) The remaining outcomes A, C, D, and G all involve significant costs and are ranked according to their relative disadvantages. A follows H, since, although there is American support, there is also Soviet intervention. Outcome D comes next because of Israel's unwillingness to attack without the support of at least one major power. Outcome C combines the disadvantages of A and D, since there is no U.S. support and there is Soviet intervention. In Outcome G, the worst, Israel absorbs an Arab first strike.[22]

With respect to likelihood, the estimate of prior probability of Arab attack after the mobilization is approximately 25%. Between 19 and 23 May, the major event which alarmed Israel's decisionmakers was the 22 May blockade of the Straits of Tiran by Egypt. Since doctrine highlighted closure of the Straits as a *casus belli*, it had a significant impact upon the probability of Arab attack. The same two coders used in the mobilization update estimated that it was twice as likely for Nasser to close the Straits if he planned to attack rather than not to attack. Table 9.4 contains the Bayesian calculations for revision of probability of attack in light of the closure of the Straits. There is a 75% absolute change, but a 60% relative increase as the probability of attack goes from .25 to .40. In terms of odds, there is a movement from 1:3 chance of attack to odds of 1.1.5, as indicated in Figure 9.7.

The decision tree for the 23 May choice to delay military action appears

21. Given problems with replicating the domestic politics dimension and its small weight, it should be dropped from future analyses.

22. Thanks to Hemda Ben Yehuda and Sarah Vertzberger, graduate students at the Hebrew University of Jerusalem, for help in verifying the calculations. David Wiechert provided valuable assistance in ranking the outcomes along dimensions of value.

TABLE 9.4

PROBABILITY OF ATTACK UPDATES: 20-23 MAY 1967

Event

D_4 Closure of Straits—22 May 1967

	Priors		*Likelihood Ratio*		*Posteriors*		*Normalized Value*
Update:							
H_1	.25	×	.80	=	.20	=	40
H_2	.75		.40		.30		.60

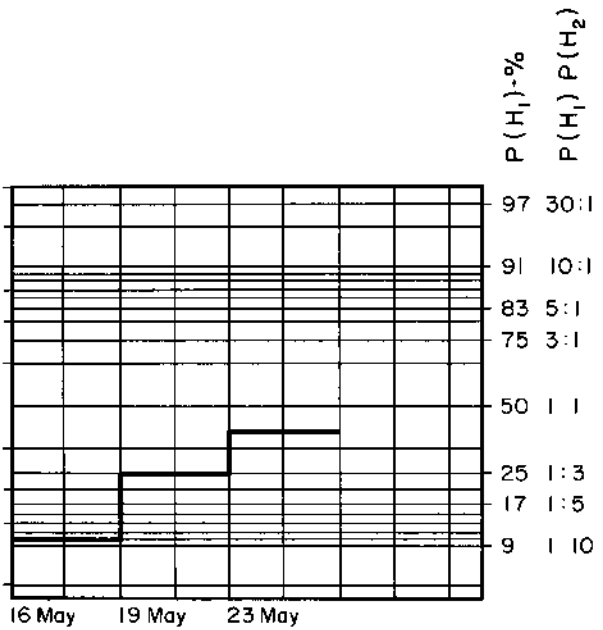
H_1 = Arab Attack
H_2 = No Arab Attack

in Figure 9.8. With respect to U.S. support and Soviet intervention, there is evidence for assigning probabilities of occurrence of about 30% and 15% respectively. For example, Foreign Minister Abba Eban suggested that the likelihood of American assistance in supplying arms and deterring Soviet intervention would increase if Israel chose to delay; furthermore, should Israel act without consulting the U.S., it was unlikely that support would be forthcoming (Eban, 1977:334-335). The perception of U.S. support as unlikely has a probability range of between .15 and .45, according to the Sherman Kent scale. Ben Gurion also feared taking action without American support. Moshe Carmel recalls that Ben Gurion emphasized that, as long as Israel did not have any of the powers on its side, any action taken would be a "dangerous adventure." U.S. support is estimated to be at the mid-point of the range, i.e., a .30 probability of U.S. support.

Israel's government also was concerned about the potential for Soviet intervention. Without Washington's support of Israel, Moscow could be tempted to intervene on the side of the Arab states. In the absence of information, Eban was unable to estimate the likelihood of Soviet intervention with any precision; therefore, further acquisition of information was necessary before alternatives could be evaluated. In an interview during 1968, Eban stated that the possibility of Soviet intervention had to be explored. In the face of constant Soviet warnings that Israel would pay a heavy price if it acted, a countervailing influence (e.g., U.S. support) had to be secured. In contrast to Eban's apprehension over Soviet intervention, Yigal Allon concluded that Soviet intervention was a virtual impossibility:

> First, it was too risky—it could have meant confrontation with the United States. Secondly, they were too weak in the Middle East militarily to go to war with Israel; it would have meant a military build-up equal to the size of the American build-up in Vietnam. Thirdly, based on history I concluded they are not inclined to intervene, and finally, I counted on a short war, one not long enough to give the Russians time to intervene (1968).[23]

23. As stated in Chapter 6, Allon's remarks are *ex post facto* and are the statements of



Prior Probability		x	Likelihood Ratio D_4	=	Posterior Probability	=	Normalized Value
H_1	0.25	x	0.80	=	0.20	=	0.40
H_2	0.75		0.40		0.30		0.60

H_1 = Arab Attack

H_2 = No Arab Attack

D_4 = Blockade of the Straits: 22 May

Fig. 9.7. Plot of probability of attack updates: 16–23 May 1967

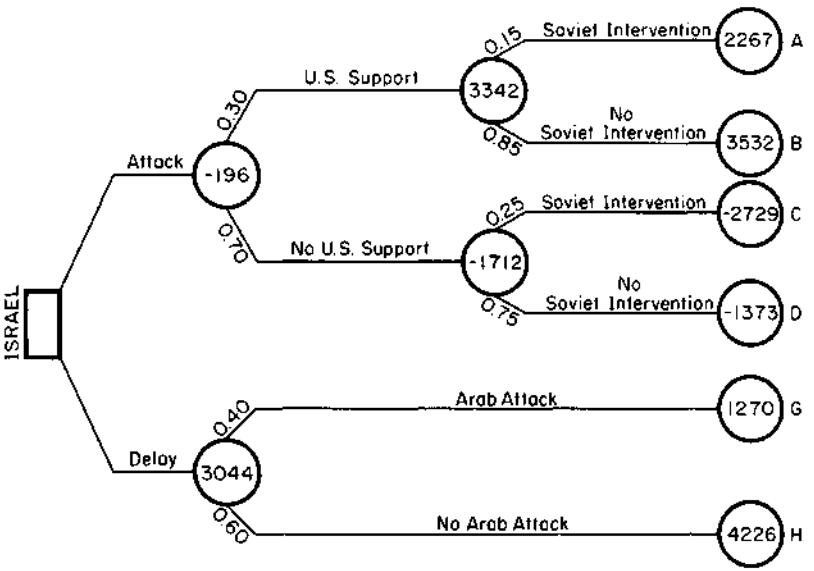


Fig. 9.8. 23 May 1967 decision to delay

Taking into account such statements as those of Eban and Allon, the coders assessed the probability of Soviet intervention as only 15% if Israel had U.S. support but 25% in the case of no American support. The 23 May 1967 decision tree shows that it was rational for Israel to delay at that time. For example, Israel stood to gain about fifteen times more from delay than it stood to lose from attack. This result is consistent with the historical record.

28 May: The Choice to Delay

As Chapter 6 concludes, the second delay choice is an illustration of a decision that follows a cognitive-analytic path (Table 6.3). Between 23 and 28 May, the cabinet confronted a situation for which it identified two options—delay or strike first. Again, particular attention was paid to the risk of losing international support (Table 6.4).

Figure 9.9 contains the structure of the decision problem facing Israel's leaders on 28 May. With the introduction of an international flotilla as a possibility after the 23 May choice to delay military action, the tree now contains eight outcomes. The two new outcomes on the decision tree are E

someone who was not a central decisionmaker during the early part of the 1967 crisis, a time when he was out of the country. On his return, however, he became a principal participant in the decisional process. See also Eban, 1977:404-405.

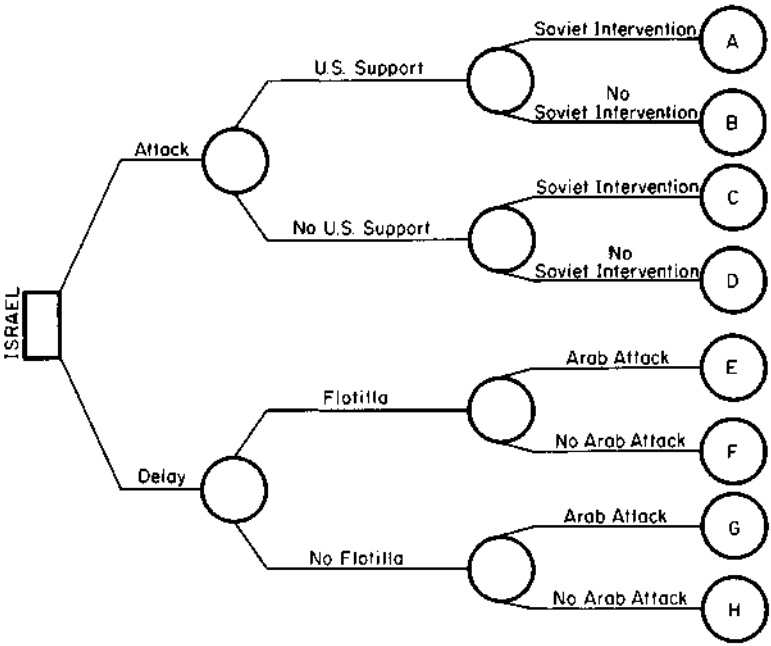


Fig. 9.9. 28 May 1967 delay choice

and F In E, Israel waits, there is a flotilla and an Arab attack, while in F, Israel waits, there is a flotilla but no Arab attack. The relative weights of the dimensions are the same as those on 23 May except for domestic politics which is increased to 2.2 times the value of the economic dimension. Such an increase reflects the additional pressure from public opinion increasingly concerned with the problem of the concentration of Egyptian troops in Sinai.

The presence of additional outcomes on the 28 May tree, as well as changes in attitude on the part of the decisionmakers, requires revision in the ranking of the outcomes across all four dimensions. On the economic scale, outcomes A, B, C, D, G, and H are assigned the 23 May values. The new outcomes E and F would represent the same economic cost as G and H respectively, except that one of the consequences of E and F is an international flotilla. If the flotilla succeeds in opening the Straits, there is some economic benefit to Israel. To calculate the dollar value, it is necessary to estimate the amount of imports lost to Israel through the closure of the Straits. The *Statistical Yearbook of Israel* (1968) lists the

total 1967 imports as $747,456,000. The monthly average is $62,288,000. Experts consider that about 5% of Israel's imports in 1967 came through the Straits (Geist, 1974:603). Thus the monthly loss to Israel in 1967 because of closure of the Straits is approximately $3,000,000. Outcome E is assigned an economic cost of $991,000,000 which is $3 million less than the cost of an Arab attack without a flotilla. F is given a positive value of $3 million because Israel recovers $3 million in imports through Eilat by the opening of the Straits.

From the standpoint of military security and the reduction in expected casualties, the attack outcomes are now considered the best by Israel's leaders. By 28 May, the Israel Defense Forces are fully prepared, and military leaders are pressing the cabinet to act. Thus, outcome B, attack with U.S. support and no U.S.S.R. intervention, ranks highest. Outcome A is next because of the negative impact of Soviet intervention. American support, nevertheless, makes outcome A preferable to that of D, which includes neither U.S. support nor Soviet intervention. C is the worst attack outcome, because the Soviet Union intervenes and there is no countervailing American support. Among the wait outcomes, F is best because the flotilla might reopen the Straits and Arab armies do not attack. Finally, the lowest ranked outcomes are H, E, and G, in that order. If H occurs, the situation remains static. Despite the flotilla in E, an Arab attack prolongs the war and makes it much more costly for Israel. G is the worst outcome since there is an Arab attack and no help from an international flotilla. The new outcomes, E and F, are ranked at the top of the international support dimension. In both cases, there is a flotilla that provides a concrete display of international support. E is ranked higher than F because of the assumption that an Arab attack would bring additional world support. The ordering of the other outcomes is similar to that of the 23 May choice. For international support, the ranking of the remaining outcomes from highest to lowest is G, H, B, A, D, and C.

The last dimension of value for the 28 May decision is domestic politics. Because of the increased public pressure exerted on the Eshkol government between 23 and 28 May, all four outcomes on the attack branch are ranked as more desirable than those on the wait branch. By 28 May, as Chapter 6 reports, military officers were joined by the press and influential opposition leaders in their demand for military action. Simultaneously, pressure for a national coalition was growing. What is best for military security is best for domestic politics. Thus, the outcomes for domestic politics are ranked in the same order as the outcomes for the military security dimension: B, A, D, C, F, H, E, and G.[24]

24. With respect to reliability, there is agreement between the study's coding for domestic politics and the judgments of one of Israel's Foreign Ministry officials during March 1977: national security and domestic politics converge for the 28 May decision. In terms of

In connection with likelihood, the estimate of prior probability of attack after the delay decision of 23 May is 40%. Table 9.5 and Figure 9.10 contain evidence relevant to revision of opinion about probability of attack between 24 and 28 May. On 25 May, the Fourth Egyptian Armored Division was deployed in the Sinai. The positioning of this division was noted by Chief of Staff Rabin as an important factor in the calculation of

TABLE 9.5

PROBABILITY OF ATTACK UPDATES: 24-28 MAY 1967

Event	*Priors*	*Likelihood Ratio*	*Posteriors*	*Normalized Values*
D_5 4th Armored Division to Sinai—25 May				
Update:				
$\frac{H_1}{H_2}$	.40 / .60	× .80 / .40	= .32 / .24	= .57 / .43
H_1 = Arab Attack				
H_2 = No Arab Attack				
D_6 Nasser Statement—26 May *Al-Ahram* article—26 May				
Update:	.57 / .43	× .65 / .45	= .37 / .19	= .66 / .34

Egypt's capabilities. On 23 May, Rabin considered that the Egyptian build-up was not yet offensive; the famed 4th Armored Divison was still on the western side of the Canal. When the 4th Division was deployed, Israel's calculations of Arab capability for attack greatly increased. Because of the salience of troop concentration for Israel's decisionmakers, the coders assessed the likelihood of the datum given H_1 as .80; given H_2, they coded the probability of the 4th Division's moving to the Sinai as .40. That is, it is about twice as likely that Egypt would move the 4th Division to the Sinai (D_5) if they were going to attack (H_1) than if Egypt were not going to attack (H_2). The revised probability of attack, given the deployment of the 4th, is about 57%. For the first time in the crisis, the chances of war are greater than fifty-fifty, as indicated by Figure 9.10.

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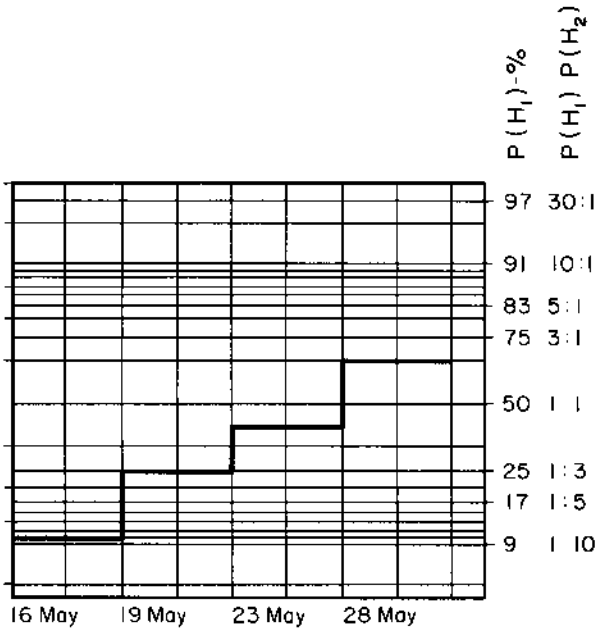
methodology, however, the multiattribute utility measurement procedure employed here assumes independence among dimensions of value. Two dimensions are independent if preferences for one holding the other dimensions constant do not depend upon the specific magnitudes in which the other dimensions are controlled. For example, Israel's preferences for combinations of military security and economic utility should be independent of the level of international or domestic politics. The effect of non-independence among dimensions on the results is unclear. By summing magnitudes from non-independent scales, such measurement error should not overturn the main results of this study.



Prior Probability		Likelihood Ratio D_5		Likelihood Ratio D_6		Posterior Probability		Normalized Value
$\frac{H_1}{H_2}$ $\frac{0.40}{0.60}$	×	$\frac{0.80}{0.40}$	×	$\frac{0.65}{0.45}$	=	$\frac{0.37}{0.19}$	=	$\frac{0.66}{0.34}$

H_1 = Arab Attack

H_2 = No Arab Attack

D_5 = Deployment of Fourth Armored Division to Sinai : 25 May

D_6 - Nasser Statement and Al-Ahram Article - 26 May

Fig. 9.10. Plot of probability of attack updates: 16-28 May 1967

On 26 May, an article appeared in *Al-Ahram*, Egypt's semi-official newspaper, stating that war was inevitable because Israel had no choice but to attack. In addition, Nasser stated in a speech to an Arab workers conference that the closure of the Straits meant total war with Israel; the war's goal was the complete destruction of Israel; and Egyptian as well as other Arab forces were prepared to win the war. During this speech, Nasser also opened a channel for Jordanian cooperation, which was to be a very important input to the 4 June choice. The coders' estimate of the likelihood of attack after the Nasser speech and the newspaper article was .65 given H_1 and .45 given H_2. They reasoned that, although Israel's leaders often considered Nasser's statements as rhetorical, within the context of an escalating crisis the leaders were less likely to do so. The revised probability of attack, given the newspaper article and Nasser's speech, is now approximately 66%. In other words, there is almost a 2:1 perceived chance of attack, as indicated by Figure 9.10.

In addition to probability of attack, Israel's leaders updated the likelihood of American support and Soviet intervention. The Bayesian analysis, however, is used only for the probability of attack. The coders estimated that the likelihood of U.S. support decreased by 50% between 23 and 28 May, i.e., from about .30 to .15. The likelihood of Soviet intervention, given American support, decreased by 29%, from approximately .35 to .25. Evidence for these revisions is more difficult to discover than for Arab attack. Nevertheless, there is some evidence for the revisions of the probabilities of U.S. support and Soviet intervention.

The coders rated as low the likelihood of U.S. support if Israel attacked. Since the U.S. was planning a flotilla, it is reasonable that American support would be less likely should Israel attack. President Johnson's letter of 28 May to Prime Minister Eshkol suggested that the United States would not come to Israel's aid if it chose to attack at that time. Chapter 6 reports that almost all decisionmakers—Eban and Allon, for example—agreed that the likelihood of American support if Israel acted now was lower than if it had acted on 23 May. Thus by the morning of 28 May, the likelihood of both an Arab attack and the flotilla had increased if Israel chose to wait, while the likelihood of American support had decreased if it chose to act (Table 6.4). The coders estimated the probability of American support should Israel opt for attack at 25%.

Israel's decisionmakers did receive indirect information of Soviet attitudes. In a note from Johnson to Eshkol on 28 May, the President wrote that the Soviet Union had communicated to him that Israel was preparing to attack. The President's warning that "The Soviets state that if Israel starts military action, the Soviet Union will extend help to the attacked states" is reported in Chapter 6. The coders used evidence like the Johnson letter to estimate probabilities of 25% and 35% for Soviet intervention, depending on U.S. support.

With respect to the likelihood of the flotilla, Eban estimated that the flotilla was "probable." On the basis of new information, the probability of an international naval patrol was now significantly higher as the twenty-eighth approached. In this respect, the coders estimated the probability of a flotilla at 45%.[25]

Figure 9.11 contains the decision tree for the 28 May choice to delay military action. Israel stood to gain about $1,400 million equivalent dollars more from delay than from attack. The optimal choice of delay accords with the historical decision and, thus, Israel's decisionmakers chose rationally on 28 May.

4 June: The Choice to Attack

As Chapter 7 concludes, the war decision illustrates a choice that follows a cognitive-analytic path (Table 7.1). Between 28 May and 4 June,

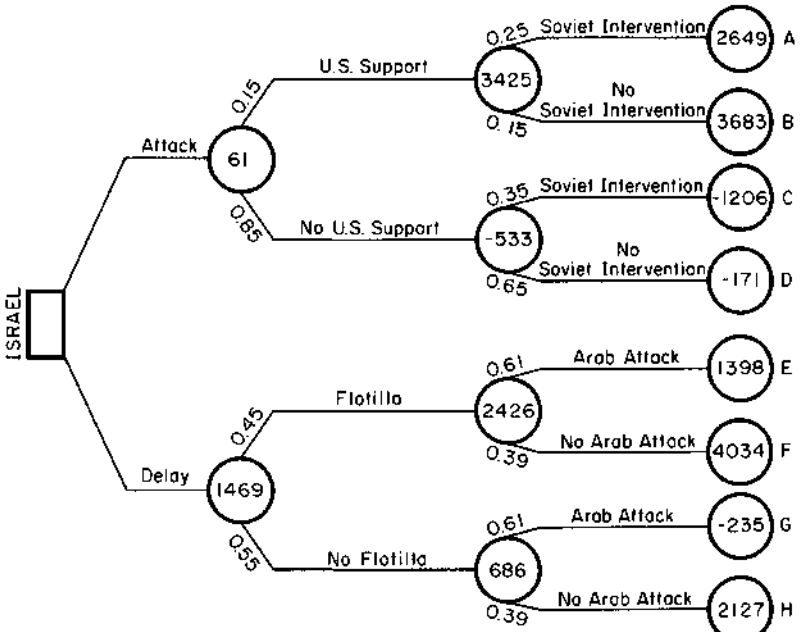


Fig. 9.11. 28 May 1967 decision to delay

25. The range for "probably" on the Sherman Kent scale is from .55 to .85; nevertheless, .45 was selected to reflect the idea that Eban's estimate may have been "wishful thinking" on his part that was not shared by other cabinet members. Eban's military colleagues, for example, were more skeptical than he was that a flotilla would set sail.

the cabinet confronted a situation for which it identified two options—delay or strike first. In contrast to the two delay choices, however, the period leading up to the war decision finds the leadership discounting international support and focusing on the risk of Arab attack. For example, the cost to military security was thought to be escalating because of the multiplicative cost of an expected three-front war (Table 7.2).

The structure of the decision problem facing Israel's leaders on 4 June 1967 is the same as that for 28 May (Figure 9.9). As in the decision to delay military action, the 4 June tree has eight outcomes. The ranking of outcomes on the four dimensions of value also remains the same between 28 May and 4 June, but the relative weight of each dimension changes significantly. By 4 June, military security is about 6.6 economics, international support is 1.5 economics, and domestic politics is nearly irrelevant at .13 economics. These weights correspond with the qualitative findings of Chapter 7 and the quantitative evidence of the content analysis.

With respect to likelihood, the estimate of prior probability of attack after the delay decision of 28 May is 66%. Table 9.6 and Figure 9.12 contain evidence relevant to revision of opinion about probability of attack between 29 May and 4 June. On 30 May, Jordan and Egypt signed a mutual defense pact. This pact was similar to the Syrian-Egyptian agreement in that Article 7 stipulated that, should military action be undertaken, the chief of staff of the United Arab Republic shall assume command of the operations of both states. On 30 May, Jordan, Syria, and Egypt were all under a unified command. The pact also stipulated that foreign troops were to be placed on Jordanian soil, thus violating one of Israel's declared *casus belli*. The pact resulted in a major update of calculations of Arab attack. The coders estimated the probability of the pact given H_1 (attack) as .85, and the probability of the pact given H_2 (no attack) as .30. That is, it is almost three times as likely that the pact would be signed if Egypt planned to attack than if it did not plan to attack.

The likelihood of a Jordanian-Egyptian pact was considered low under

TABLE 9.6

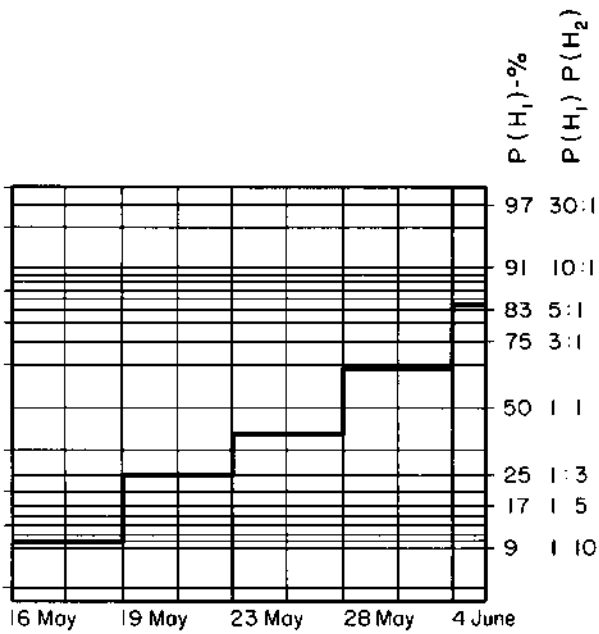
PROBABILITY OF ATTACK UPDATES: 29 MAY-4 JUNE 1967

Event

D_7 Jordan-Egypt Pact—30 May

	Priors		*Likelihood Ratio*		*Posteriors*		*Normalized Value*
Update:							
H_1	.66	×	.85	=	.56	=	.85
H_2	.34		.30		.10		.15

H_1 = Arab Attack
H_2 = No Arab Attack



Prior Probability	x	Likelihood Ratio D_7	=	Posterior Probability	=	Normalized Value
$\frac{H_1}{H_2}$ $\frac{0.66}{0.34}$	x	$\frac{0.85}{0.30}$	=	$\frac{0.56}{0.10}$	=	$\frac{0.85}{0.15}$

H_1 = Arab Attack

H_2 = No Arab Attack

D_7 = Jordan - Egypt Pact 30 May

Fig. 9.12. Plot of probability of attack updates: 16 May-4 June 1967

an assumption of no Arab attack. Egypt and Jordan had been engaged in name-calling indicative of strained relations. Thus, it is reasonable for Israel's leaders to have estimated a low likelihood of military collaboration if no attack were planned (H_2). The revised probability of attack, given the pact, is about 85%, or "almost certainly," on the Kent scale. The absolute change from 28 May to 4 June is 19 percentage points. Since the probabilities are approaching unity, the relative change is 29%. The odds shift from 2:1 in favor of attack to almost 6:1 for attack.

In addition to probability of attack, Israel's leaders updated the likelihood of U.S. support, Soviet intervention, and the international flotilla. As discussed in Chapter 7, the probability of U.S. support increased after the long delay and the decrease in the likelihood of the flotilla; also, the probability of USSR military intervention declined (Table 7.2).

Empirical evidence for an increased probability of U.S. support is a cessation in the constant American warnings to Israel against unilateral military action. On 3 June, a day before the decision to strike, at a meeting in Eshkol's home, leaders expected that, if they took the initiative to break the encirclement of Arab armies, the U.S. would not take an unfriendly view. Eban stated that, if Israel were successful in ending the siege and the blockade, the United States would not be hostile to its actions (1977:395). In other words, decisionmakers assessed the likelihood of American support as high. Using the Sherman Kent Scale, the coders estimated the probability of American support at 80%.

Quantitative estimates concerning the international flotilla are based on such specific evidence as the American secretary of state's reported assertion that the United States was not at the present time planning any separate military activity in the Middle East, e.g., a flotilla. Secretary Rusk also stated that he did not think it was the business of the U.S. to restrain anyone. These statements, along with private conversations with American officials, led Israel to view the flotilla as unlikely. For example, Meir Amit, then head of one of Israel's intelligence services, reported on 31 May that, from hints and scattered facts, he received the impression that the maritime force project was running into deeper water every hour. Therefore, the coders rated the possibility of a flotilla at about 10%.

With respect to probability of Soviet intervention, Ambassador to Washington Avraham Harman and Meir Amit independently assessed the likelihood of Soviet intervention as low based upon U.S. deterrence. Thus, the coders rated the probability of Soviet intervention as 10% if Israel had U.S. support.

In the shift in opinion from 28 May to 4 June, U.S. support increases by 66%; USSR intervention given U.S. support decreases by 60%; and the likelihood of the flotilla decreases by 73%. As stated previously, the

Bayesian revision suggests a 29% increase in the probability of attack in the absence of a flotilla. Under the assumption of the importance of proportionate changes in decision-making, these dramatic shifts in likelihoods may have been important inputs to Israel's decision to attack. In addition to these major changes, the near-certainty of Arab attack seems to be equal or of even more importance, as suggested in Chapter 7.

Expected value calculations appear in Figure 9.13. This decision tree suggests that Israel would net almost $6 billion equivalent dollars if it attacks rather than delays. The optimal choice of attack accords with the historical decision; therefore, Israel's decisionmakers chose rationally on 4 June in favor of an attack the following day. Figures 9.14 and 9.15 summarize the results of the decision analysis. On 23 May, the positive expected value for delay exceeds the negative value for attack. By 28 May, the positive value of delay is about twenty-four times the positive value of attack and, on 4 June, the positive value of attack is about three-fifths times the negative value of delay.

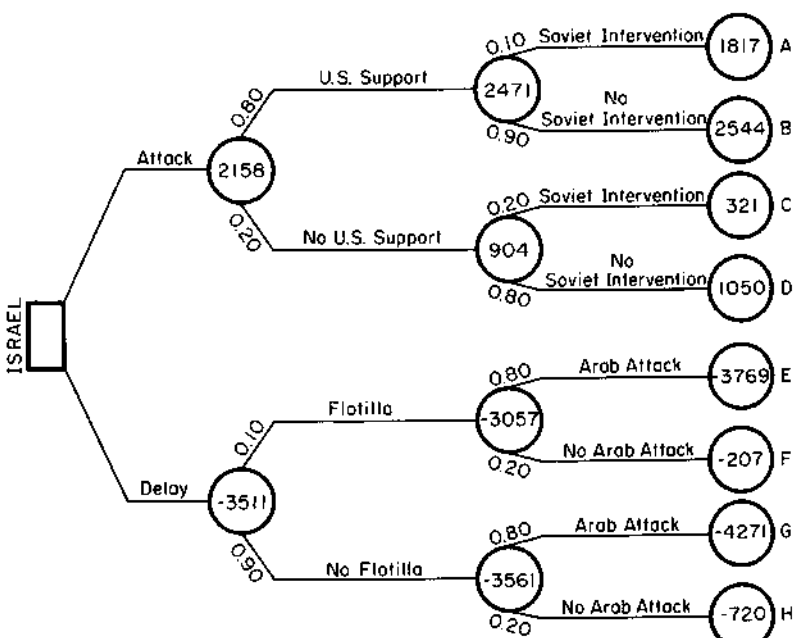


Fig. 9.13. 4 June 1967 decision to attack

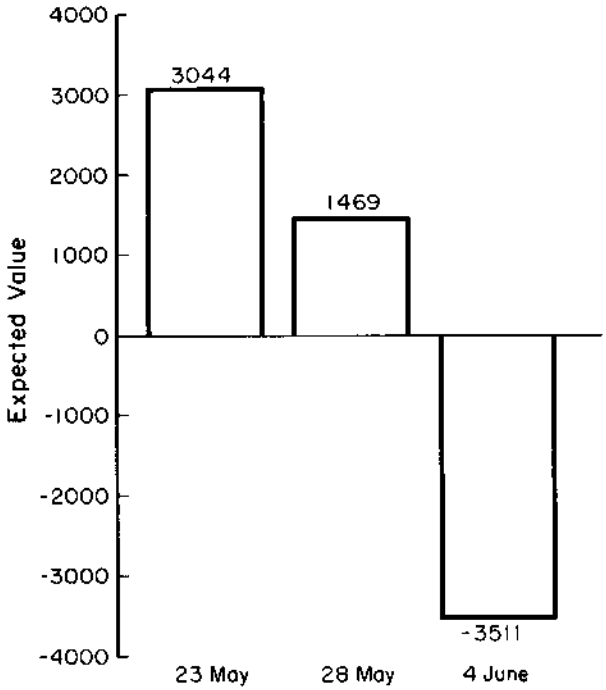


Fig. 9.14. Graph of delay options over time: 23 May–4 June 1967

Decision analysis is a means for inferring approximate rationality of the mobilization, delay, and attack options. It is a tool for evaluating the rationality of choice. A procedure for assessing the rationality of estimates is Bayesian analysis. Figure 9.16 contains a comparison of unaided revision with Bayesian change. Individual differences among decisionmakers are compared with optimal Bayesian revision. In the earlier stages, both the military and the civilian estimates are more conservative than Bayes while, in the later stages, Eban's revision was more conservative and Allon and the General Staff revised more rapidly than Bayes would recommend.

Impact of Information on Choice

Revision of opinion regarding likelihood of consequences of choice implies that information is relevant to selection of one option over another. Other aspects of the impact of information are threshold probability and sensitivity analysis. A threshold is a probability where choice should shift

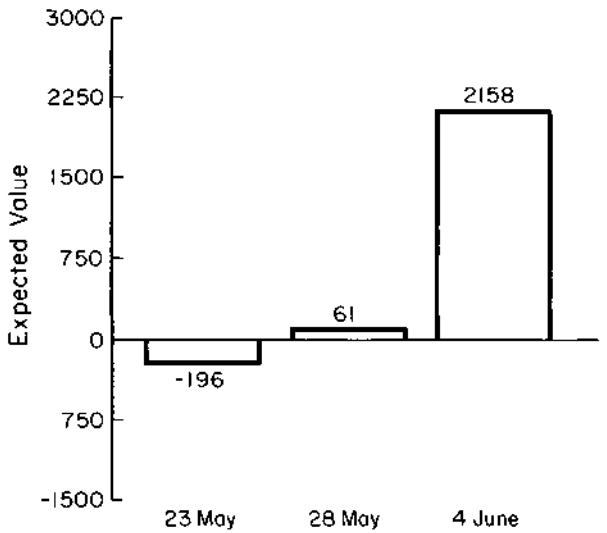


Fig. 9.15. Graph of attack options over time: 23 May-4 June 1967

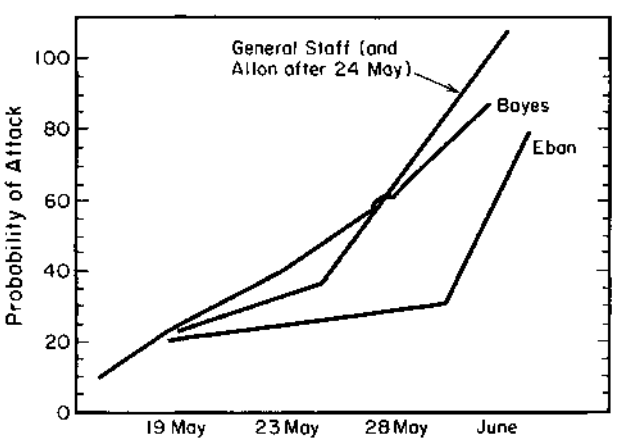


Fig. 9.16. Bayesian and intuitive revision of the likelihood of Egyptian attack

from one alternative to another in order to continue maximization of expected value or minimization of expected loss. That is to say, below the threshold, one option has the highest expected value; above the threshold, another alternative has the highest expected value; and at the threshold, one is indifferent because the expected values are equal. Sensitivity analysis, moreover, assesses the impact of different value estimates on choice. Figures 9.17 and 9.18 contain the plots for estimating threshold probabilities graphically for U.S. support.

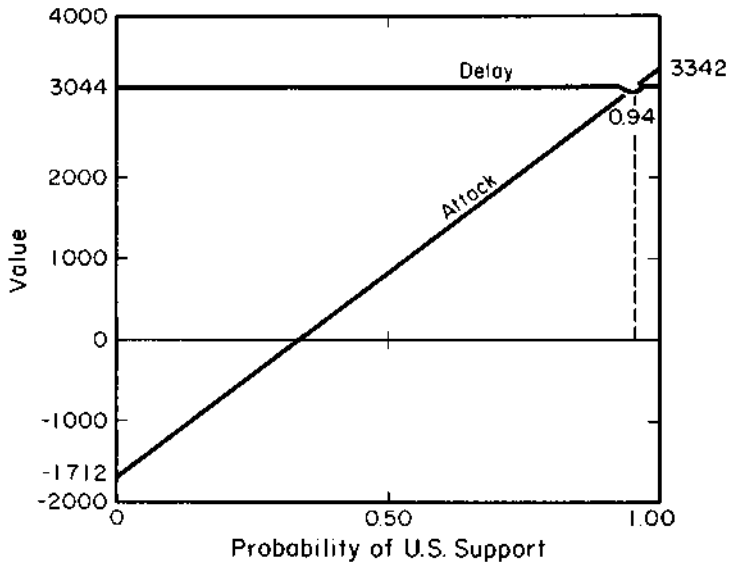


Fig. 9.17. Threshold probability plot for U.S. support 23 May 1967 delay and attack choices

The expected value of each option is plotted assuming zero probability and certainty of the respective event forks for a consequence of an option. Should the lines for each option cross, the point at which the lines cross is the threshold probability. In order to maximize expected value, one should shift from one option to the other(s), depending on which alternative has the highest expected value.

Both the 23 May and the 28 May 1967 decisions contain threshold probabilities. For example, the threshold for the likelihood of U.S. support is about .94 for the 23 May choice. If the probability of American support is greater than 94%, then attack is preferable to delay When the probability is below 94%, then delay is better than attack. In other words, the expected value of attack equals the expected value of delay at about .94 probability as of 23 May.

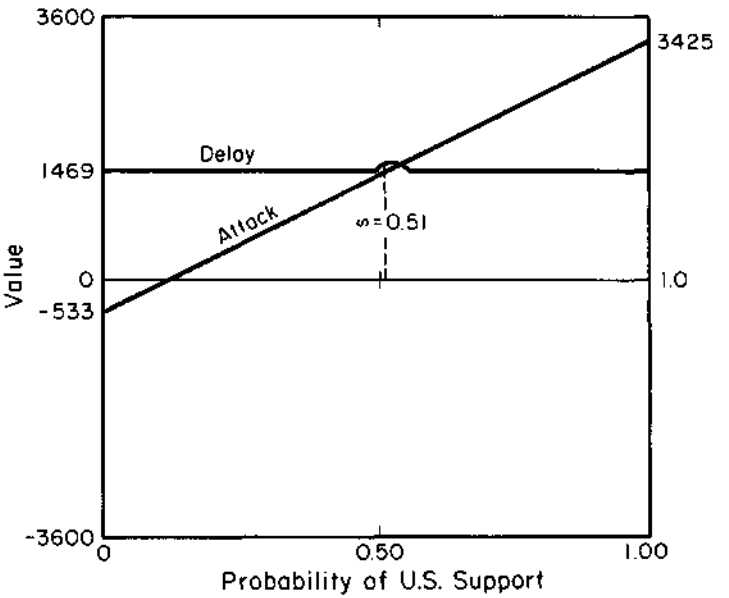


Fig. 9.18. Threshold probability plot for U.S. support 28 May 1967 delay and attack choices

The threshold for U.S. support by 28 May is about .51. If the probability of support increased above 51% on the 28th, then attack by Israel is better than delay. The fact that there is a high threshold on 23 May, a significantly lower threshold on 28 May, and no threshold on 4 June can be explained by Israel's decisionmakers' perceptions of changing circumstances during the crisis. U.S. support was most important on 23 May because Israel's forces were not fully prepared. As the army reached a state of readiness on 28 May and the probability of Arab attack increased, the need for American support decreased. By 4 June, the threat of an Arab attack on three fronts reduced the salience of American support for some decisionmakers.

Although there is a threshold for American support, there is none for Soviet intervention, Arab attack, and the international flotilla. Failure to find thresholds for the uncertainties surrounding the Soviet, Arab states, and the flotilla inputs suggests that these consequences are of less importance in a decision to switch from one option to another. It is possible that Israel's decisionmakers considered that the likelihood of American support itself was more sensitive to their choices than the other principal consequences. Search activity was designed not only to provide a better informational base to estimate the probability of U.S. support but also to increase its likelihood. This may explain the allocation of scarce

informational resources to permit more accurate estimates of the likelihood of American support. Such an allocation is consistent with the historical record and the sensitivity of Israel's decisionmakers to this consequence of their choice.

Evidence drawn from the examination of decisionmaking in Chapters 6 and 7 underlines the considerable effort Israel's leaders made to determine the likelihood of American support. Foreign Minister Eban, for example, insisted on acquiring additional information on the likelihood that the United States would "neutralize a Russian menace" before deciding on delay or military action on 23 May (1977:334). Before choosing delay again five days later, Israel's cabinet sent Eban to Washington to explore the likelihood of U.S. support should they choose a preemptive strike to reduce the costs of an expected war and to restore Israel's deterrent credibility. Not only was there a major effort to assess the likelihood of U.S. support, there was also a parallel attempt to increase its probability. The prime minister, as Chapter 6 reports, cabled Eban in Washington requesting that President Johnson issue a deterrent threat to discourage an anticipated Arab attack.

Unlike Soviet intervention, Arab attack, and the international flotilla, the likelihood of American support was considered by Israel's decisionmakers to be subject to Israel's influence. That is, Soviet intervention, Arab attack, and the naval patrol were considered beyond the range of Israel's short-term efforts. Not unexpectedly, American support is the variable with a threshold in Figures 9.17 and 9.18. Israel's choices on 23 and 28 May were sensitive to the likelihood of American support both as a constraint and as an objective. Washington's inducements were considered more important than Moscow's threats. The analysis suggests that those consequences which decisionmakers consider manipulable may yield thresholds where choice should shift from one alternative to another. Those consequences that are considered less manipulable may not yield a threshold point where choice should change. Sensitivity analysis can be of some use, then, in assessing the relative effect of different environmental factors on choice.

The impact of information on decisionmakers' choices can be assessed by locating thresholds. A related approach is sensitivity analysis through modification of value estimates. The decision to delay military action on 28 May, for example, assumes the following weights among dimensions of value: international support = 6.6 economics; military security = 3.3 economics; and domestic politics = 2.2 economics. One reason for the responsiveness of choice to American support on 23 and 28 May is the estimation of the international support dimension as twice as important as the military security dimension. When the international support dimension is reduced on 4 June, so is the impact of U.S. support. Sensitivity analysis can vary the weights to see how the optimal choice may change.

To examine the responsiveness of choice to changes in value estimates, consider an alternative set of weights. Military security was estimated as 10 (times) economics, international support as 6 economics, and domestic politics as 2 economics. The revised expected values for 28 May indicate that attack is now preferable to delay, a reversal of the results when international support was considered twice as important as military security. The decision on 28 May is the only one that is sensitive to reasonable changes in value estimates. The evidence cited in Chapter 6 supports the original weights, however, where support is almost twice as important as security on 28 May.

Relative changes among value dimensions also permit different assumptions about the risk propensities of decisionmakers. By making international support twice as important as military security for the two delay decisions, Israel's leaders are considered risk-averse on support relative to security. From 23 to 28 May, they were more afraid to take a chance on losing American support than they were of losing the benefit from a first strike.[26] By 4 June, however, military security is approximately six times more important than international support: they were more afraid of losing the benefit of a first strike than they were of losing the benefits of delay; or, perhaps Israel's decisionmakers were more afraid of the potential loss from an Arab first strike than of the loss of the advantages of American support. Since risk includes the probability as well as the amount of loss and since the probability of American support was much higher by 4 June, the last choice was easier.

Implications and Conclusion

Two main conclusions follow from the above analysis. First, with respect to information-processing, Israel's leaders were not optimal in the scope of their opinion revision. Second, with respect to choice, they chose in an optimal fashion. These conclusions raise the following implication for policy-making: whether decisionmakers would benefit from the use of systematic procedures for revision and choice.

Especially in a crisis, systematic procedures might assist decisionmakers' avoidance of failure to revise, premature closure, and other characteristics of crisis-induced stress (Tanter, 1978). On the other hand, one should recognize how unlikely it is that leaders would turn to systematic procedures during a crisis. Nevertheless, such methods of information-processing should be developed in order to provide for the contingency of their use.

With respect to Israel's leaders, the question arises as to whether they would have benefited from the use of decision aids. For decisionmakers

26. A person who is risk-averse is more fearful of losing than desirous of gaining the same amount, while risk-acceptant individuals wish to win more than they fear loss.

who are risk-averse concerning military security, it may be advisable to revise estimates of the probability of attack according to Bayesian procedures. If they are risk-acceptant about security, then intuitive revision may be appropriate. Since Israel's leaders were operating within a narrow margin of security in 1967, however, Bayesian inference is suitable as a procedure for opinion revision. In other words, the risk-propensities of decisionmakers affect the weight they attach to strategic assumptions and tactical indications and could determine whether a Bayesian mode of information-processing is appropriate.

The practice of rational choice should not argue against its being institutionalized; rather, the fact that choice approximated a rational ideal suggests that analytic procedures be systematically incorporated into the decision-making process. Without such institutionalization, one is left with the vagaries of personality and the happenstance of who is present at a given time. For example, perhaps the leadership during the 1967 crisis followed a style of open decision-making because of a sense of inadequate expertise; on the other hand, leaders who are too confident may follow a closed style and fail to revise and to choose in a rational fashion. It is clear that persons who are too confident to think rationally need to be reminded of the fruits of a rational process: expected-value maximizing options on the average.

To evaluate the rationality of choice, this chapter draws on the analysis of doctrine in Chapter 4 to specify decision models. The chapter concludes that the decisions to mobilize on 19 May 1967, to delay military action on 23 and 28 May, and to attack on 4 June are expected-value maximizing or rational choices. Confidence in these results is strengthened because the decisions are relatively insensitive to changes in value or probability. If weights among dimensions of value are changed, only the choice to delay on 28 May should be different. Both choices to wait on 23 and 28 May should differ with changes in estimates of probability. The mobilization and war choices, however, are relatively invariant to reasonable changes in values and to changes in probabilities.

These findings converge with the evidence provided by the historical record. There is little doubt about the rationality of mobilization on 19 May and attack on 4 June. Similarly, there was little doubt in the behavior of the decisionmakers themselves concerning these two choices. On the other hand, there is some question about the efficiency of the two decisions for delay, and this lack of confidence also appears in the protracted cabinet discussions leading up to these choices. That decisionmakers recognize complexity and are uncertain about some of their choices is testimony to their rationality.

part three

Conclusion

chapter **10**

The Explanation and Evaluation of Decisions

Introduction

This explanation and evaluation of choice strongly challenges the widely-accepted view of Israel's decision-making in 1967 The success of the preemptive strike on the morning of the fifth of June undoubtedly obscured, at least in part, failures in deterrence and in decision-making. Examination of the evidence uncovered important and unexpected flaws in rationality which distorted the process of choice. First, decisions can be explained best by processes of constrained rationality. These processes were not uniform, moreover, as leaders followed different paths to choice during the three-week period. Second, and more surprising, the constraints to rationality were not rooted principally in limited capacity to calculate but in the logic of the arguments leaders used. Using criteria of efficient choice, optimal estimation, and logical argument, this evaluation of Israel's decisions in 1967 provides only mild encouragement to optimists but considerable support for pessimists. Those optimists who cling to the legacy of the Enlightenment will point to the capacity to make rational choices, but those who argue the limits of pure reason will emphasize flawed estimation and critical gaps in logical thinking.

Before interpreting the significance of the evidence and joining the debate between optimists and pessimists, the validity of these research results must be assessed. The criteria of a valid explanation are demanding and difficult to meet. An explanation which is valid is one which can be rejected in the light of evidence yet provide a coherent and parsimonious interpretation of more than one case. Here the analyst of decision-making must acknowledge the trade-off: the more general an explanation, the less nuanced it is in the examination of the processes of any one individual or group.

This investigation of Israel's leaders is animated by a subjectivist interpretation of human conduct, and its bias favors intensive rather than extensive investigation. This may limit an attempt to generalize to other decisionmakers in other contexts. Nevertheless, analysts of a single case can turn their rich and detailed evidence to advantage. By tracing the

process of decision, they can document the use of one rather than another path to choice. Drawing on the evidence leaders offer, analysts can establish the procedures they used with some confidence. The explanation can be validated further by examining the fit of the evidence with competing paths to choice. If the evidence is compatible only with the process that is traced and no other, analysts can be more confident of the explanation they have offered.

The contribution of other factors to a broader explanation of choice also must be considered. If the process explains the choice, what explains the process? And do the factors that explain the process also explain the choice? Is the process necessary in an explanation of decisions? Analysts of a single case can provide some preliminary answers to these questions. By examining the fit between the expectations of complementary and competing explanations and the evidence they have found, analysts can assess the necessity and sufficiency of factors that produce the decision. If they cannot judge precisely how important a particular factor is, or measure its exact contribution, they can decide whether it is important at all. At the very least, analysts can validate their explanation by elimination.

A brief recapitulation of the central arguments that guided this investigation of decision-making is probably useful before the evidence is summarized and evaluated. An important component in any explanation of decision, this study argues, is the process leaders use. This process can best be explained by drawing on complementary elements from among available explanations to construct multiple paths to choice. These more complicated paths, built on the five basic decision-making tasks, may provide a better reconstruction of the processes leaders use to make difficult choices in an uncertain world. Insofar as they trace the complex processes decisionmakers follow, these paths to choice can provide a more valid explanation of a decision.

A closely related argument suggests that decisionmakers are not likely to use one process at all times under all circumstances. Six of the seven paths to choice represent different forms of constrained rationality, and a central explanatory issue is not "which process" but "which process when and why." The strong interest in the quality of decisions and, therefore, in the rationality of the process raises the particular issue of whether, when, and why decisionmakers use any variant of an analytic process. While the study recognizes the constraints, it underlines the importance of rationality in decision-making.

Completeness in the content and coherence in the structure of strategic arguments can provide at least a partial explanation, it is argued, of why decisionmakers approximate any variant of an analytic process. When issues of national security are up for decision, prevailing strategic concepts provide a useful summary of the beliefs leaders shape and share. These

beliefs are a necessary, if not sufficient, component in any explanation of decision: the central theoretical linkage of the study is that between doctrine, process, and choice.

Other investigations of decision-making suggest that group procedures and norms and perceptions of threat and pressure of time may contribute to variation in the quality of the processes leaders use. At least three different explanations of the impact of a group on the choices of its members have received widespread attention: concurrence-seeking as an effort to promote and preserve group solidarity; coalition-building to assure majority support for an option; and the exchange of argument and evidence through group discussion to increase support for one alternative. In all these explanations, the decision process of individual members is an essential intervening variable in an explanation of the choice the group makes. Finally, analysts suggest that crisis-induced stress also may affect the decision by affecting the processes leaders use.

To determine the validity of the link between doctrine, process, and choice, the strength of these competing explanations must be investigated. If the evidence fits their expectations, then the validity of the relationship between doctrine, process, and choice is open to question. If the evidence is inconsistent with competing explanations, if competing explanations can be eliminated, then an explanation of strategic doctrine through process to choice is strengthened.

The first task in assessing the validity of the linkage between doctrine, process, and choice is to establish valid paths to decision, and the evidence from "process tracing" is relevant here. More particularly, the issue of whether decisionmakers used any variant of an analytic process must be settled first. If the evidence is convincing, if it is inconsistent with other paths to choice, the analyst can then evaluate how closely decisionmakers approximated rationality and the severity of the constraints. The chapter begins, therefore, with a summary of the explanation of the processes and an evaluation of rationality in 1967. In so doing, it can shed some light on the hotly debated issues of the efficiency of choice, the optimality of information-processing, and the logic of argument. Once the validity of the explanation of choice through process has been established and rationality evaluated, then the chapter considers competing and complementary explanations of processes of decision over time.

The Efficiency of Choice

Evidence drawn from the explanation and evaluation of this set of decisions is encouraging. With few exceptions, Israel's leaders showed considerable capacity to estimate the cost and benefit of the principal consequences of policy options and to face up to unpleasant and difficult value conflict. Contrary to expectation, as stress increased and complexity

became more intense, decisionmakers became more rather than less conscientious in their evaluation of options. The first decison to delay military action on 23 May, for example, was not a difficult one and, consequently, not an exacting test of the capacity of decisionmakers to perform demanding tasks. Five days later, however, value conflict was intense and choice was difficult, yet a core group of cabinet members acknowledged the complexity of their problem and considered and reconsidered their estimates of value.

Their examination of cost and benefit factors was often impressive. Although most members of the cabinet tended to pay a great deal of attention to military security—a factor strongly emphasized by prevailing strategic beliefs—they did not ignore economic, international, or human factors. Even the chief of staff, for example, referred to the cost in casualties of a retaliatory strike against the Egyptian army. In the range of values they considered, they bore little resemblance to single-minded decisionmakers who exclude all but the most important value. Policymakers frequently choose to wear blinkers because the inclusion of multiple values is too difficult or too unpleasant, yet members of Israel's cabinet did consider several values simultaneously in their evaluation of the consequences of available options.

They also made generally reasonable estimates of cost and benefit. There was occasional resort to gross evaluations of "catastrophe" by military decisionmakers frustrated and alarmed by delay Civilian cabinet members challenged these exaggerated estimates, however, even in areas where they were not expert. At one point in the long debate that preceded the second decision to delay, Allon argued that there was no benefit whatsoever from international support, but he did not convince a majority of his colleagues. Generally, although the four or five principal members of the cabinet who were most active in debate offered few quantitative estimates, they did make qualitative comparisons between alternatives.

A central core in the cabinet also saw and acknowledged the unpleasant conflict in values. Performance was not uniform across decisions or members of the cabinet. At least two key ministers—Allon and Eban—at times claimed dominance for their preferred option. The foreign minister, however, was not consistently constrained in his rationality: in some of his presentations to the cabinet he was analytic while at other times he denied value complexity. During the long meeting on 27 May, for example, Eban explicitly formulated the necessity to trade immediate security for diplomatic support while, in other discussions with members of Knesset, he saw no gain and only loss if Israel chose to preempt. The prime minister, however, focused on the conflict between military security and diplomatic support and openly admitted the difficulty of the decision he had to make. Eshkol and some of his cabinet colleagues demonstrated considerable

capacity to assess, compare, and trade off and they did it under both favorable and unfavorable conditions.

A careful tracing of the process shows little evidence that members of the cabinet resorted to single-value or satisficing strategies to make their choices. Only once, in the very early stages, did the prime minister, acting on the advice of his chief of staff, choose the first satisfactory option. The evidence of routine and circumscribed choice on 16 May is consistent with a cognitive-cybernetic path to decision. Throughout the rest of the three-week period, however, choice is best explained by combinations of cognitive and analytic processes. Members of the cabinet did eliminate some options out of hand; no important decisionmaker, for example, was prepared to accept a blockaded Straits of Tiran. Elimination stopped short, however, of single-value or single-option problem definition, and decisionmakers had to compare the two options that remained on the table.

Members of the cabinet did not formally calculate expected value to make their choice. There is no evidence to suggest that decisionmakers systematically considered probability and value across the consequences of both options in conformity with rigorous analytic standards. On the other hand, members of the cabinet did not simplify their problem by arranging their values in some rough order and choosing the first option which discriminated among them; the evidence is not consistent with any variant of lexicographic calculation. To make their decision, Eshkol, Eban at times, Dayan, and Rabin engaged in rough qualitative comparison of the likelihood, advantages, and disadvantages of the obvious consequences of the two alternatives. Estimates were crude rather than precise and the prime minister and his colleagues used no systematic procedures to combine likelihood and value, but they did explicitly consider probabilities and compare relative cost and benefit. The only explanation which fits the evidence of some direct comparison is a cognitive-analytic path to choice. Once they had eliminated unacceptable alternatives, Israel's leaders loosely approximated analytic processes in their selection between the options that remained.

The critical test of even an approximation to analytic processes lies in the capacity to produce rational decisions. To evaluate the rationality of choice, decision models were developed to assess the four choices that were the product of processes with any analytic component. A decision model specifies the environment of the decisionmaker, including the interdependencies among the consequences of choice, the procedures for revision of likelihood and worth, and the decisionmaker's value and risk preferences.[1] Evaluation of the four historical choices finds that all four were efficient. Israel's leaders consistently chose that option which

1. The requirements of a formal decision model are described in greater detail in Chapter 8.

promised them the highest expected gain, or where no gain was possible, the option which would produce the lowest anticipated loss.

Despite the fact that members of the cabinet did not explicitly calculate expected value, their crude, rough, and intuitive processes of evaluation produced what were efficient choices. Such complete convergence between their decisions and the optimal choice is not likely to be the product of chance. Although there were only four trials, in all four their choice corresponded to the rational decision determined through much more rigorous and demanding procedures. It is encouraging that failure to perform a probability-value calculus was not a major constraint to rational choice in this case.[2] Despite the fact that leaders did not replicate formal procedures, their gross approximations did produce the best decision under the circumstances. Through mechanisms not yet fully understood, members of the cabinet found the sense and wits to choose the value-maximizing option.

If rationality refers to the capacity to choose the option which promises the highest expected gain, then Israel's leaders in 1967 were rational. Within the limits of their estimates of probability and value, they were proficient. Psychological obstacles to proficiency were somewhat less than anticipated and neurological capacity somehow greater than is presently understood. Evidence from explanation and evaluation suggests some validity for a link between approximate analytic procedures and efficient choice.

But rationality encompasses much more than efficiency. At a minimum, rational decisionmakers must show a capacity to learn from their environment. If they remain closed to new and challenging information, even if they are expert at combining static estimates of probability and value, decisionmakers could not be considered rational. In evaluating rationality, a second important criterion is the quality of information-processing and estimation.

The Rationality of Estimation and Revision

Evaluation of the rationality of estimation and opinion revision is conceptually more troublesome and practically more difficult than

2. The failure of decisionmakers to explicitly perform a probability-utility calculus is considered a major obstacle to rational choice (Snyder, 1978 and Jervis, 1979). The convergence between the product of intuitive and formal procedures suggests that this need not necessarily be the case.

Closely related is the concern that errors in estimates of probability and value can severely distort calculation of the best possible choice. In this case, Chapter 9 demonstrates only limited sensitivity to changes in the estimate of the probability of American diplomatic support and its relative value. Only on 28 May would changes in estimates of the probability and relative worth of American support change the expected value-maximizing option. The insensitivity of choice is consistent with the convergence between intuitive and formal procedures of calculation. Von Winterfeldt and Edwards (1973) demonstrate that

assessment of the efficiency of choice. In evaluating efficiency, the analyst works with the estimates of the decisionmakers as given and considers the impact of their interaction on the selection of an option. To determine whether decisionmakers are rational in estimation and revision, however, their estimates must be assessed against some external criterion; the evaluative process must go outside the world of the policymaker. Appropriate criteria are neither obvious nor agreed-upon. What is centrally at issue, however, is the capacity of leaders to handle large amounts of often inconsistent information and to revise their estimates in response to important changes in the environment. Beyond this very general statement, however, the processes, scope, and direction of rational estimation and revision are a matter of considerable debate.[3]

Examination of information-processing by Israel's leaders in this case documents a high-quality performance. Indeed, procedures were their strongest suit—among the five decision-making tasks, members of the cabinet were best in their handling of new information. For example, leaders frequently fail to search for clearly available evidence which is important as a basis for estimation of the likelihood of different consequences. This was not generally the case in 1967. Most of the important decisionmakers, other than Allon, considered the attitudes of the United States to be central to their problem and undertook extensive search for additional information on likely American behavior. In estimating the likely American response, Eshkol and Eban were especially careful and painstaking in their procedures. They used multiple sources of evidence, both in the United States and in Israel, and carefully considered the reliability and validity of the evidence they had. When members of the cabinet considered their information inadequate on the night of 26 May, they actively sought new information and refused to finalize their estimates until all the available evidence was in. They frequently faced contradictory information about American intentions, but scrupulously considered inconsistent and ambiguous evidence in formulating estimates about likely American behavior.

In their management of information, civilian and military leaders not only followed generally good procedures but also showed a considerable capacity to learn. After an initial, routine processing of information, Eshkol and Rabin demonstrated flexibility in revising prior estimates, rejecting

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inaccuracies in probability and utility estimates do not lead to suboptimal decisions when options are continuous. However, Lichtenstein, Fischoff, and Phillips (1977) find that a moderate error in probability estimation can produce a substantial decrease in expected utility when options are discrete.

3. Criteria to evaluate estimation and revision are discussed in detail in Chapter 1 while Chapter 2 summarizes the psychological debate on biases in the scope and direction of revision. Chapter 8 returns to this debate when it considers normative models of information-processing.

hypotheses they no longer considered valid, and acknowledging past miscalculation. It is certainly true that at times they were helped both by the unambiguous actions of their adversary and by a set of strongly diagnostic indicators deduced from prevailing strategic concepts. Nevertheless, in an environment of uncertainty and complexity, they demonstrated openness to new evidence and sensitivity to ambiguity and contradiction. Estimating the likelihood of an Egyptian attack is a case in point.

As is usual, decisionmakers approached their tasks with a well-developed set of cognitive assumptions to organize the interpretation of incoming information. The estimate of Egyptian intentions, particularly among the General Staff, was that an attack was unlikely in the near future; the problem was one of general rather than immediate deterrence. Nevertheless, within a period of less than three weeks, military officers rejected almost all their organizing hypotheses and drastically revised their estimates of the likelihood of an Egyptian attack. Military Intelligence quickly abandoned the argument, for example, that President Nasser's involvement in Yemen or fragmentation among front-line Arab states constrained Egypt's capacity to attack. Civilian as well as military leaders modified their earlier optimism about their capacity to deter despite their continued confidence in the superiority of their military capability. As Eban acknowledged, even though they "knew" that the favorable balance of capabilities should have deterred a challenge, Egyptian troop deployments and statements challenged this assumption. Confronted by the discrepancy, members of the cabinet and their advisers gave greater weight to the behavior of their adversary than to their own knowledge and revised their estimates; tactical indicators were considered more important than strategic beliefs.

It is also interesting to note that Israel's leaders were discriminating in their reading of history and in their use of analogy. Generally, historical analogies are a source of misinterpretation, but this does not seem to be so in this case.[4] When the problem first arose, military leaders in particular interpreted Egyptian behavior through analogy to an earlier experience in 1960. They assumed that not only they but also their counterparts were drawing the same lessons from history. Even though they understood the lesson and signaled the success of Egypt's deterrent strategy, Egypt's

4. In their comparative investigation of crisis-bargaining and decision-making, Snyder and Diesing find historical analogies to be a constant source of error (1977:313, 371). Evidence drawn from this case suggests the contrary. First, decisionmakers quickly rejected an analogy to 1960 when its inapplicability became apparent. Even more important, Rabin, Eban, and Eshkol used analogies to sharpen their analysis of the problem for definition. The chief of staff, for example, drew an analogy to 1956 to underline the differences between past and present consequences of the same option. Eban and Eshkol drew an analogy to 1957 to support their heavy emphasis on the importance of American support. This was neither an unreasonable inference to draw from their earlier experience, nor was it an inappropriate application to their dilemma in 1967. Because analogy was used to highlight structural differences and similarities, estimation of the likelihood and worth of the consequences of the two options was more precise.

president apparently did not read history the same way: the pace of troop deployment in Sinai increased rather than decreased. Having learned the lesson history taught, military officers as well as the prime minister rejected its relevance less than one week later and acknowledged the partial failure of their own deterrent strategy; apparently, the lessons of history were not at all obvious. In order to reject the analogy and revise their estimates, civilian and military leaders had to admit past errors of inference. To acknowledge miscalculation is a painful process, but a capacity to admit past error is an important component of rational information-processing and revision. Learning often begins in response to failure.

To revise their estimates and reconsider the likelihood of an Egyptian attack, civilian and military decisionmakers worked with multiple indicators simultaneously and cumulatively throughout the processing of choice. Often, decisionmakers experience considerable difficulty in working with several indicators at once, but this did not prove to be a serious constraint in estimating the probability of an Egyptian attack. This is perhaps so because leaders generally are more experienced in working with at least the two broad categories of capability and intent in their consideration of a likely attack. Decisionmakers in this case also got some help from strategic concepts which specified a series of indicators through the enumeration of *casus belli*; availability of this set of valid indicators made it easier to work with several indicators simultaneously and more difficult to resist revision of central assumptions. When a blockade followed deployment of Egyptian troops across the Canal, no member of the cabinet argued that Israel's capacity to deter was unimpaired. Leaders nevertheless had to go beyond strategic concepts to revise their estimates of likelihood. If strategic arguments were of some use in identifying relevant indicators, they were much less helpful in their interpretation and weighting. Particularly when capability and intent indicators diverged, strategic concepts were inadequate as a guide to revision.

Members of the cabinet combined these indicators differently to develop different estimates. In the last week of May in particular, when there was some divergence between capability and intent, those who weighed intent more heavily estimated a lower probability of attack than those who gave greater importance to capability. Neither weighting was inherently implausible; on the contrary, the fact that both were plausible explains the disagreement among cabinet members. The difference in weighting reflected the use of different paradigms to define the problem for decision. Allon, for example, principally monitored capability indicators and defined the problem largely as one of defense. Eban argued that the immediate issue was the blockade while the longer-run challenge was to Israel's capacity to deter. Allon consequently inferred a much higher probability of attack than did Eban.

At the time of their disagreement, available evidence on capability and

intent was sufficiently ambiguous to permit both estimates. It is precisely under these kinds of circumstances that the direction and scope of revision become a matter of controversy. As information continued to arrive, however, Allon paid much less attention to discrepant evidence than did Eban. The minister of labor gave little weight to President Nasser's statement that he planned no military attack in the immediate future and concentrated almost exclusively on tactical indications of changing capabilities. Eban, on the other hand, after learning of the Egyptian-Jordanian defense pact on 30 May and reading a copy of President Nasser's speech, found the information sufficiently discrepant to reject the premise which had organized his thinking. He no longer adjusted, modified, or amended his analysis to accommodate ambiguous evidence, but revised his estimate and accepted Allon's interpretation which could accommodate the new and disturbing information. Allon was highly unlikely to change the direction of his estimate and reduce the probability of an attack while Eban demonstrated considerable capacity for revision of his estimates. Although Eban was the one to change his opinion—and in the direction initially suggested by Allon—the foreign minister was more rational in his handling of information than was the minister of labor. Whether Eban required too much discrepant evidence to revise his estimates is not immediately obvious. It is not obvious precisely because the scope of rational revision is fairly wide and the criteria permissive rather than explicit.

A more precise criterion of optimal revision can be extrapolated from the standards provided by Bayesian analysis. Bayes works within the assumptions of decisionmakers but corrects for conservative biases in estimation and revision. The evaluation of opinion revision in 1967 begins with the subjective estimates of Israel's leaders and provides criteria for updating these prior estimates in the light of new evidence. Bayesian techniques explicitly require an assessment of the likely validity of competing assumptions as new information is received.

The results of the analysis suggest that, although leaders may have been analytic in their procedures, they were less than optimal in the scope of their revision. At best they approximated the estimates generated through Bayesian analysis, but the intuitive and unaided procedures used by Israel's policymakers produced estimates considerably less precise and more variable than optimal Bayesian revision. The hypothesis of many cognitive psychologists who study processes of judgment is partly confirmed; although revision was consistently in the right direction, change by some was too little and by others too great. The estimates of members of the cabinet were flawed.

Civilian and military leaders experienced greatest difficulty when uncertainty was greatest. Their early estimates—that there was "little

chance of attack," that the Egyptian troop deployment was deterrent—were the verbal equivalent of the low Bayesian estimate of a 25% probability. As the Bayesian probability began to increase, however, and approach uncertainty, divergence from intuitive estimates grew (Figure 9.16).

When Bayes estimated a 40% probability of attack on 23 May, Military Intelligence presented a "restrained" assessment of the likelihood of Egyptian action to the cabinet; unaided revision was more conservative than Bayes would recommend. After the Fourth Armored Division crossed into Sinai on 25 May, the Bayesian estimate reached the point of greatest uncertainty when it increased from 40% to 50%. During this period, there is no evidence that members of the cabinet or senior military officers estimated an even chance of an Egyptian attack; on the contrary, they were either too conservative or too radical in their judgments. Eban argued that Nasser was not likely to attack; the president wanted a diplomatic victory. The foreign minister gave greater weight to his prior assumptions than to current indicators, and his estimate, therefore, was more conservative. Allon and members of the General Staff, on the other hand, paid more attention to tactical indications than even Bayes would recommend and inferred a higher probability of attack from the redeployment of the armored division.

By 30 May, however, after the Egyptian-Jordanian defense pact, the intuitive estimates by civilian and military leaders corresponded to those recommended by Bayes. All three revised the probability of attack to "near certainty" or 85%. Errors in the scope of revision were most pronounced at points of greatest uncertainty; when multiple indicators converged and uncertainty was reduced, however, those who were conservative and those who were radical approximated the Bayesian norm.

This explanation and evaluation of the processes, direction, and scope of opinion revision by Israel's leaders produces a rather mixed record. The central finding is rather pessimistic: although procedures were analytic, estimates were not optimal. An explanation of analytic procedures is strongly supported by the evidence, and there is little fit with the expectations of variants of cybernetic or cognitive explanations. With rare exceptions, civilian and military leaders did consider probabilities rather than certainties or impossibilities. Allon did dismiss the flotilla as impossible in an effort to persuade his cabinet colleagues to choose preemption, but this is an isolated instance of the kind of categorical language anticipated by cognitive explanations. Nor is there much evidence of inconsistency-management through denial. On the contrary, leaders used few of the expected shortcuts: they deliberately sought information from several sources; they conscientiously attempted to validate the evidence they had; and they worked with multiple rather than

single indicators to improve the quality of their estimates. They were good intuitive scientists.

Good intuitive science was not good enough. Although the management of evidence was thorough and generally careful, estimates were flawed. Unaided, the procedures leaders used to calculate produced biased estimates. The biases, however, were not in one direction; some estimates were too radical while others were too conservative. At least three factors may explain overestimation by one and underestimation by another decisionmaker when both are confronted by the same evidence under the same circumstances in the same group.

Evidence from other examinations of crisis decision-making suggests that personal bias or predispositions toward "hard-line" or "soft-line" interpretations may influence the revision of opinion (Snyder and Diesing, 1977:359). Such predispositions would explain both conservative and radical revision. A second and complementary explanation would suggest that the risk-propensities of decisionmakers could explain differences in the rate and scope of revision. Allon was risk-averse with respect to military security; he was not prepared to risk the loss of military security to gain international support. A decisionmaker with this risk-propensity would be expected to update radically an estimate of a probable attack. Eban, on the other hand, was risk-averse with respect to international support; he was reluctant to risk the immediate loss of American support in order to solve the security problem. The foreign minister would be more conservative, therefore, in his revision of the likelihood of an Egyptian attack. Personal bias and risk-propensity could explain the divergence in the scope and rate of revision among Israel's leaders in this case.

A third explanation of the divergence in estimates looks to the arguments leaders use. In 1967, those who considered military capability the strongest determinant of Egyptian action paid close attention to tactical changes and erred on the side of radicalism. Similarly, those who estimated likely Egyptian behavior from assumptions about President Nasser's intentions were the conservatives in opinion revision. If this third explanation is plausible, the flawed estimates may result not only from unaided and intuitive procedures but also from the paradigms naive scientists accept. If this is indeed the case, the logic of the arguments leaders use becomes even more important to the quality of the estimates they make and the options they choose.

The rather modest achievement of good intuitive procedures is somewhat sobering. While the link between analytic processes of evaluation and decision and rational choice appears strong, the relationship between analytic processing of information and rational revision is considerably less robust. A great deal more work must be done, with evidence drawn from decision-making on international issues, to

explain the weakness and to improve unaided procedures. The results of this investigation, however, are not entirely discouraging. Even if revision was not optimal, civilian and military leaders were not rigid; they did change their opinions. That they displayed so few of the expected pathologies may be in part because they observed generally accepted rules of evidence. Evidence of some capacity to learn when procedures are good must provide at least mild encouragement for the optimists.

The learning that did take place was limited, of course, to the consequences leaders identified for consideration. While estimation and revision are centrally important tasks, they are performed within the larger context of problem diagnosis and definition. If leaders fail to identify obvious options and ignore significant consequences of the alternatives they do consider, then their rationality is constrained. Diagnosis of a problem, identification of options, and specification of their consequences provide the structure for all subsequent estimation and evaluation. The causal thinking which structures uncertainty is a critical component of a comprehensive concept of rationality and, in 1967, there were significant errors in causal thinking.

The errors were largely those of omission. At an early stage in the decision-making process, for example, when the prime minister and the chief of staff considered an option of large-scale mobilization, they ignored some of its obvious consequences. Because they did not identify deterrence or escalation as possible consequences of mobilization, they could not and did not estimate their likelihood; these estimates were excluded from subsequent calculations. In this failure to identify obvious consequences and consider their likelihood, leaders were limited in their rationality.

As the process continued, however, civilian and military leaders had less difficulty in pinpointing crucial cause-effect sequences. When they examined preemption, they considered the consequences of American support and Soviet intervention, and delay was related to an Arab attack and to international action to reopen the blockaded Straits. Individual members of the cabinet identified these obvious cause-effect relationships and were sensitive to the interdependencies among consequences of the alternatives under consideration. In his examination of the cognitive maps of policymakers in widely different contexts, Axelrod finds similar evidence of causal thinking in the consideration of options.[5]

Evidence of a capacity to structure uncertainty is encouraging. If leaders intuitively do attribute consequence to option as one of many cause-effect

5. Axelrod (1976:221-248) emphasizes, however, that policymakers limit their causal thinking to one-way causation. They have few cycles or feedback loops within their belief systems and conceptualize causation as flowing outward and not turning back to affect some other variable that is regarded as causally prior. Axelrod suggests that decisionmakers are able to avoid such cognitive strategies as selective attention to goals or satisficing precisely because they simplify their causal networks.

sequences they construct, then the criteria of rationality may be somewhat less onerous than research on constrained rationality suggests. If policymakers naturally are causal thinkers who build complicated relationships, then structural uncertainty in the international strategic environment may not be an insuperable obstacle to rationality. This judgment, however, is somewhat premature and overhasty. First, it ignores considerable errors of omission during the three-week period of decision-making. Second, on closer investigation, Israel's leaders in 1967 were successful in structuring uncertainty when they could draw on strategic concepts which explicitly connected consequence to cause, while their errors of omission can be traced to flawed strategic arguments. Strategic doctrine, for example, did not treat deterrence and escalation as consequences of mobilization. The capacity of decisionmakers to avoid egregious errors of omission can be explained, at least in part, by the quality of strategic logic as well as by their innate capacity for analysis. The capacity of Israel's leaders to think causally was constant—and static during this short three-week period—while their performance varied within and across decisions. While a capacity for causal thinking is a necessary condition of rationality, it cannot by itself explain variation in the performance of decisionmakers. Evaluation of rationality must be extended to include the quality of strategic logic.

Insofar as leaders draw on strategic concepts to diagnose their problem and structure subsequent estimation and evaluation of the consequences of options, the logic of these arguments is directly relevant. Israel's leaders in 1967 referred to these concepts, moreover, not only to itemize the consequences of options but also to identify the alternatives. In all five decisions, they considered only those options highlighted by strategic concepts and, indeed, never identified more than two or three alternatives: problems were almost always dichotomous. Throughout the sequence of decisions, there is no evidence, for example, of a deliberate attempt to expand the search for options. Israel's leaders never tried consciously to be logically exhaustive or comprehensive but stopped searching once they identified the few options made salient by prevailing strategic concepts. Their path to choice can be explained only by a hybrid strategy of cognitive and analytic components and, in the early stages of the processing of each choice, cognitive elements dominated decisional activity.

Performance of these initial tasks is critical. Choice was efficient and procedures of information-management were rational even though the scope of revision was less than optimal, but leaders considered, estimated, and costed only those consequences and options they identified. If the rationality of choice and estimation were constrained by the conceptual framework established by standing strategic arguments, then the quality of strategic logic is critical.

The Logic of Argument

Any evaluation of the logic of argument must be particular and context-specific, since the concepts leaders draw upon vary with different problems and among decisionmakers. Throughout these three intense weeks of May and June in 1967, Israel's leaders frequently used and abused the two concepts of deterrence and defense. The four most important members of the cabinet--the prime minister, the minister of foreign affairs, the minister of labor, and the minister of defense—as well as the chief of staff all spoke frequently of Israel's deterrent posture and reputation and of the imperatives of defense. Two of the five, Allon and Dayan, had played a major part in formulating these concepts while Rabin was responsible for translating strategy into tactics. An evaluation of the quality of their logic must include both an assessment of the completeness and coherence of strategic argument and its use by participating decisionmakers.

To be judged complete, strategic concepts of deterrence and defense must examine at least five factors: the valuation of interests at stake; the action to be deterred; the calculus and options of an opponent; the credibility of commitment to respond; and defense, that is, responses to the failure of deterrence. To be considered coherent, strategic arguments must order and interrelate these five factors in a set of propositions that are consistent in their specification of cause and consequence. Finally, not only the concepts but also their application must be assessed. Did leaders understand the concepts they used? Did they use them correctly? Were they aware of any logical weaknesses in the concepts they worked with? Or, if arguments were flawed, did they replicate these errors when they diagnosed their problem and organized their decisional activity? Both pure and applied logic are part of a comprehensive concept of rationality.

While the logic of the arguments leaders use affects their performance of all the decision-making tasks, three of the five factors in a strategic argument—valuation of interests, specification of the object of deterrence, and a credible commitment to respond—impinge directly on the crucial initial task of problem diagnosis. At the core of a deterrence argument is an assessment of the worth of the interests at stake in comparison with the cost of their protection. Indeed, it is usually only after interests are weighed, defined as objects of deterrence, and then challenged that leaders diagnose a problem. Earlier examination of *casus belli* found weaknesses in the consideration of at least two important challenges—concentration of troops and a naval blockade.[6] Although loss from economic blockade and danger from troop concentrations were discussed, the point at which either became so costly that resort to force became rational was not specified. Leaders struggled with precisely these two challenges in the critical early

6. Chapter 4 considers flaws in the logic of strategic argument in greater detail.

stages of the three-week period as incomplete strategic concepts created confusion in problem diagnosis and definition.

When Egyptian troops were redeployed in the Sinai and the Straits of Tiran blockaded, Israel's leaders disagreed in their diagnosis of the problem. Ambiguity in specifying an unacceptable level of troop concentrations permitted differing definitions of the challenge in the first few days. But leaders had an even more difficult time after the blockade was announced. Eban concentrated on the intrinsic interest at issue and defined the blockade as the problem, while Allon and Rabin considered Israel's deterrent reputation to be the interest at stake. On the face of it, Eban's definition of the problem does not seem rational: the decision analysis which evaluated the rationality of choice estimated the cost of military action in retaliation to a blockade as approximately $497 million, while the monthly losses from the closure of the Straits were assessed at $3 million.[7] Even if these estimates are treated as approximations, there appears to be little symmetry between fulfilling the commitment once deterrence is challenged and the worth of the interests at stake.

The asymmetry in cost does not in and of itself indicate a flawed definition of the problem. It is possible that Eban was fully aware of the enormous gap between the cost of protection and the worth of the interests at stake. Nevertheless, if he and his colleagues considered the interests sufficiently important, they could have threatened a course of action they would otherwise not have chosen unless they were committed to do so. A strategy of the "rationality of irrationality" would be appropriate if they had seen no other way to prevent a challenge to the interests at issue. This explanation, however, is not convincing in this case. There is no evidence to suggest that civilian or military leaders, either in 1957 or 1967, recognized the asymmetry but nevertheless decided to try to deter. It seems rather that they expected deterrence to succeed and never seriously considered the consequences of deterrence failure; "irrationality" was not calculated.

If focus on the blockade as an intrinsic interest does not seem rational, a diagnosis of the problem as the preservation of a credible deterrent reputation was plausible once leaders incorporated the collateral damage to other interconnected interests. Allon, Rabin, and the rest of the General Staff worked with this definition and, indeed, diagnosed the problem as the credibility of deterrence. The closure of the Straits was important insofar as a failure to lift the blockade would jeopardize all the other interests grouped under the umbrella of *casus belli*. By emphasizing the loss of deterrent credibility, members of the cabinet formalized the transformation of deterrence from strategy to value and submerged a specific

7. See Chapter 9 for a discussion of the cost of an attack option and an estimate of the economic losses of a blockade.

commitment within an undifferentiated concept of deterrence. No one except a few junior officers asked whether the blockade alone justified preemptive retaliation; the question was beside the point. Indeed, not once during these three weeks did Israel's leaders entertain the option of permitting deterrence to fail.

The reaction of the majority of Israel's cabinet is not atypical, apparently, in an international crisis. A comparative investigation of decision-making finds that such supergame considerations were prominent and persistent in the calculations of crisis bargainers (Snyder and Diesing, 1977:182). When decisionmakers are uncertain both of a challenger's intent and of the challenger's estimate of their intent, they assume that their adversary will infer their intent from their behavior rather than from the issues at stake.[8] Consequently, they pay a great deal of attention to their reputation for resolve, particularly when a conflict is ongoing. Insofar as they value their reputation, commitments become interdependent and deterrent credibility becomes an interest independent of the interests it protects.

Such a definition of the problem is logically plausible and empirically not uncommon precisely because initial commitments transform subsequent consideration of challenges. By 1967, interdependent commitments had built in a dynamic of escalation even if the challenge to deterrence were partial rather than total. The occurrence of any one of the *casus belli* required retaliation if deterrence were to remain credible for the others. Once an adversary chooses to challenge, a defender who has tried to deter can no longer exercise freedom of choice; diagnosis of the problem is constrained by the original commitment. When he closed the Straits, President Nasser challenged deterrence at its weakest link, and Israel's leaders confronted that challenge equipped with incomplete arguments. Strategic concepts were flawed by two critically important omissions: a failure to weigh carefully the interests threatened by a blockade in comparison with the cost of its defeat and, even more important, a lack of attention to the interrelatedness among interests. Incomplete valuation of interests and their interrelationships is especially damaging when a partial challenge to deterrence is possible. In 1967, poor logic was not without consequence; deterrence was inadequately delimited and possibly overextended when the challenge occurred. The ensuing debate among leaders about the appropriate diagnosis of their problem was not surprising.

Flawed strategic arguments affected not only problem diagnosis but also the processing of information. Three of the five factors are particularly

8. Snyder and Diesing (1977:187) find little evidence that leaders infer resolve from an adversary's past behavior, but they uncover substantial evidence that decisionmakers think such inferences are made. Through the regress of expectations, supergame calculations become pervasive in crisis bargaining.

relevant to estimation and revision: specification of the action to be deterred, designing a credible commitment to respond, and examination of the calculus and options of an adversary. If adversaries are to be persuaded to refrain from action that threatens vital interests, they must know the broad limits of unacceptable action. Through repeated demarcation of the unacceptable as *casus belli*, Israel's leaders attempted to influence the calculus of their opponent. In so doing, they simultaneously made estimation of their adversary's intent easier. Between 19 and 22 May, for example, Eshkol and Eban relied on the regress of expectations implicit in deterrence and expected that Egypt knew that Israel considered a blockade an act of war; consequently, should Egypt nevertheless proceed to blockade the Straits, there would be little uncertainty about President Nasser's intention to challenge deterrence. Once the boundaries of unacceptable action were established, occurrence of a *casus belli* could serve as a valid indicator to estimate the intentions of an adversary.

The logic of this proposition depends on the definition and communication of the limits of unacceptable action. If the scope of the unacceptable is undefined, the logic is flawed: leaders cannot be expected deliberately to refrain from doing what they do not know is unacceptable. And if a defender is unaware that a challenger does not know the limits, miscalculation by both becomes more likely as each finds it difficult to estimate the significance of actions as indicators of the intentions of the other. In the middle of May, Egypt and Israel ran the risk of miscalculation in part because the limits of the unacceptable were poorly defined. Israel had declared that a concentration of troops along its borders would constitute provocation to war, but it was unclear either to Israel's or to Egypt's leaders that the forces which had crossed the Canal by 17 May constituted a "concentration." This was the point of greatest uncertainty for President Nasser; he estimated that the concentration of Egyptian forces increased the chances of war to fifty-fifty.[9] Prime Minister Eshkol and Chief of Staff Rabin were less radical in their revised estimates of President Nasser's intentions; they considered the troop movements as diversionary. Although an incomplete concept complicated estimation of their adversary's intentions, Israel's leaders refrained from a worst-case interpretation which could have fueled miscalculation. When the blockade was imposed a few days later, the significance of an action that was precisely defined was much clearer both to President Nasser and to members of Israel's cabinet.

While narrowly and precisely defined commitments make estimation and revision easier, they do not necessarily increase credibility and the

9. President Anwar el-Sadat reports this estimate by Nasser at a meeting of the Supreme Executive Committee. See Sadat, 1977:172.

likelihood of deterrent success. Comparative investigations of conventional deterrence and crisis-bargaining have paid a great deal of attention to the design and communication of credible commitments, a necessary and important condition of the success of deterrence. The obstacles to credibility are serious, and the impact of broadly or narrowly delimited commitments, ambiguously or precisely defined, has been the subject of considerable controversy.[10] In this case of deterrence failure, however, the credibility of commitments was not at issue. President Nasser had no doubt whatsoever about the credibility of Israel's commitment to retaliate should he blockade the Straits. He told Field-Marshall Amer, the commander in chief of the Egyptian armed forces, that "if we closed the Straits, war would be a one hundred per cent certainty."[11] Commitments must have been believable to produce such a categorical estimate; challenge was not the result of miscalculation.

It is striking that commitments were credible even when the worth of the intrinsic interest at stake was not obvious. President Nasser and his advisers considered the commitment to retaliate believable largely because of the attention they paid to reputation for resolve and a credible deterrence posture. Mohammed Heikal, writing in *Al-Ahram*, estimated that Israel would have no choice but to retaliate to protect its reputation for resolve. The issue at stake, he argued, was not "the Gulf of Aqaba, but something bigger. It is the whole philosophy of Israeli security" (1967). The leaders of Egypt and Israel were in agreement: at issue was the credibility of Israel's deterrent reputation.

The logic of Israel's strategic argument was not bedeviled by an inability to formulate, design, and communicate a credible commitment. Rather, the flaw in the logic arose from the failure to consider the range of alternatives and resources available to a challenger. Consideration of the options at the disposal of an opponent is closely related to estimation and revision of the likelihood of challenge: once they have identified the possibilities, decisionmakers can begin to estimate the probabilities, but what they never consider as possible they cannot estimate as probable. In this sense, examination of the calculus and options of an adversary sets the boundaries for subsequent information-processing. In 1967, strategic arguments were incomplete and oversimplified in their consideration of Egyptian alternatives. Most important, they paid no attention either to the likelihood or the consequences of a partial and gradual challenge to deterrence.

10. See George and Smoke (1974:550-567), Lockhart (1978), and Snyder and Diesing (1977:245-254). Chapter 4 treats this controversy only briefly since it is not directly relevant to this case.

11. See Sadat (1977:172) for a report of the meeting at which President Nasser offered this estimate.

In specifying a series of *casus belli*, strategic concepts treated challenge as a distinct, well-demarcated occurrence. This was appropriate if Egypt chose an all-out military assault, but concentration of forces and redeployment of armies could take place gradually over time; demarcating the precise threshold of a challenge to deterrence would then become extremely difficult. Second, no distinctions were drawn among the multiple *casus belli*, nor were they ordered in importance. No distinctions were drawn in part because challenges were treated as either-or contingencies with immediate implications for deterrence. And finally, strategic doctrine made no provision for a series of orchestrated actions designed to provoke retaliation. This omission was especially striking given the linkage among deterrent commitments; even a less-than-total challenge would have wide-ranging consequences. And a partial challenge was very much an option available to President Nasser.

Generally, when a challenge is less than total, it is designed to explore and clarify the intentions of the defender.[12] This was not the case in 1967, since President Nasser was certain of Israel's commitment to retaliate. Or, a challenger designs around the defender's commitment through controlled pressure to erode that commitment. Again, this was not the case in 1967 On the contrary, after 22 May President Nasser engaged in controlled pressure to provoke Israel to honor its deterrent commitments and, in so doing, he deliberately transferred to Israel's leaders the difficult and expensive decisions of whether, when, where, and how to resort to the use of force.[13]

Eban, in discussion with his colleagues at the end of May, offered this analysis of Egyptian options and estimate of President Nasser's intentions. He did so, however, not to redefine the problem Israel confronted and explore the best possible response to a strategy of provocation, but only to argue that a delay in the use of force would not impose serious military costs. His estimate of Egyptian intentions was sharply disputed by Allon

12. George and Smoke (1974:534-548) distinguish three types of challenge: the *fait accompli*, the limited probe, and controlled pressure. They also examine the gradual failure of deterrence in stages (1974:101-103).

13. President Nasser simultaneously attempted to forestall American involvement—which he considered a likely consequence of an Egyptian first strike—and to increase international support. Evidence of his deliberate attempt to provoke retaliation is abundant. In his autobiography, President Sadat recalls the meetings among Egypt's leaders in the closing days of May and early June: "With the Tiran Strait closed, war became a certainty. We held daily meetings at Army Command Headquarters with all commanders of the armed forces. . . On Friday, June 2, 1967, Nasser endorsed the defensive War Plan in his capacity as President. . . On that day, I remember Nasser told Air Force Commander Sidqi Mahmoud that the air force would be dealt the first blow. . . On the same day, Nasser said that Israel would attack us on Saturday or Sunday or, at the latest, on Monday, June 5, 1967" (1977:173, 174). Heikal confirms this interpretation of Egyptian strategy. In his column published in *Al-Ahram* on 26 May he argued that " . . the logic of the confrontation . . . between Egypt . and Israel . . dictates that Egypt after all it has now succeeded in achieving, must wait, even though it has to wait for a blow. Let Israel begin; let our second blow then be ready" (1967).

and members of the General Staff who had increased their estimate of the likelihood of an Egyptian attack. Only months later, when they read the testimony given by Egypt's minister of war, Shams Badran, at the trials of military officers in Cairo, did some members of the General Staff reconsider their estimate.[14] During the three-week period, however, Israel's leaders paid only cursory attention to an Egyptian option of deliberate provocation.

It seems hardly coincidental that the flaws in strategic arguments were replicated by members of the cabinet and the General Staff in their discussions. Strategic concepts drew no distinctions among challenges, made no provision for a strategy of gradual challenge, and included no consideration of the credibility of deterrence as the principal imperative to retaliation. All these omissions flowed from an incomplete examination of the options and resources at the disposal of a challenger. And where arguments were incomplete, Israel's leaders disagreed sharply among themselves. First, members of the cabinet engaged in a prolonged, acrimonious, and confused debate as to whether the troop concentrations or the blockade were the more important challenge. Second, differing emphasis on the value of a deterrent reputation led to differences in estimation and revision; a heavy emphasis on the importance of reputation reflected a conservative resolution of uncertainty. Allon consequently estimated a higher probability of Egyptian attack than did Eban who placed greater emphasis on the intrinsic interest at stake. Estimation and revision were at least partly related to concepts of deterrence. And these concepts made no provision for the option Egypt's president chose.

Completeness and coherence in the canvass of the calculus and options of a challenger impinge on more than problem diagnosis and information-processing. Examination of this factor along with two others—deterrent commitments and responses to deterrence failure—affect the identification and evaluation of alternatives by the defender. Once the options of a challenger have been identified, a complete and coherent concept of defense relates different kinds of challenges to available policy responses and assesses the effectiveness of differing options under varying circumstances. It also includes an analysis of the appropriateness of various responses to different indications that deterrence may fail; different options may be suited to a growing warning of the likelihood of challenge. A logical argument links warning to response and challenge to defense under different conditions. Although the logic of Israel's concept of defense

14. In an interview six years later, General Bar-Lev attested to this revision in the estimate of President Nasser's intentions: "At the time it seemed to the General Staff that the Egyptians might attack. Today it looks as if they wanted to provoke us to attack them and they hoped to be able to defeat our attack" (1973c). In his assessment, Eban drew on the estimates of the Pentagon and the CIA, communicated to him during his visit to Washington. This assessment was consistent with the report of U Thant on his return from Cairo.

was of higher quality than that of deterrence, here too there were important flaws.

Strategic doctrine was unambiguous in its prescription of mobilization as an immediate response to imminent deterrence failure. The logic was flawed, however, by the failure to distinguish partial from large-scale mobilization and relate each to different degrees of warning or to different kinds of challenges. Partial mobilization may be sufficient, for example, when warning of deterrence failure is ambiguous while large-scale call-ups may be appropriate only if a challenge is imminent and massive. In discussion of the reserve system, there is little systematic consideration of the relationship of mobilization to warning and challenge nor is much said about the use of limited or large-scale mobilization to reinforce a weakening deterrent posture. Mobilization was not calibrated to the scope or imminence of challenge.

The prime minister and the chief of staff did not rectify the error in their evaluation of options. When they chose large-scale mobilization on 19 May, they concentrated heavily on defense and ignored the workings of the international security dilemma; they paid little attention to the escalation which could result from an increase in Israel's capacity to attack which simultaneously accompanied an increase in its capacity to defend. Working within the constraints of limited manpower and a civilian army, they limited their capacity to sustain a prolonged period of crisis management. The prime minister made his decision to mobilize large numbers of reserve forces, moreover, when warning was ambiguous and challenge was limited; he and his advisers were still highly uncertain of Egyptian intentions. When concepts were incomplete, Eshkol, with the concurrence of his chief of staff, chose a conservative resolution of uncertainty. Had he done so after a more complete consideration of the consequences, his choice might not have been different. It is impossible to know, however, since flawed strategic logic was reflected and perpetuated in the evaluation of alternatives and, consequently, in choice.

The logical quality of the examination of the defensive options which follow mobilization is considerably tighter. Even then, while the argument for preemption is strong, responses to deterrence failure are not sufficiently differentiated. Strategic concepts examine the relevant environmental constraints and recommend an option of preemption if attack seems imminent. By highlighting the importance of great-power support, strategic concepts also introduce valuable complexity into the consideration of the response to deterrence failure. Awareness of complexity was reflected in the prolonged debate among important members of the cabinet, who disagreed both on the appropriate means to meet their commitment and on the level of risk that was acceptable to do so.[15] Allon

15. George and Smoke (1974:557) anticipate such differences in the interpretation of deterrence by decisionmakers.

was willing to risk the loss of American support, but most of his colleagues in the cabinet were not. While they were agreed that deterrence had been challenged, they disagreed on acceptable criteria for choosing defense or inaction. They could not agree in part because of the complexity of their problem but also because they differed in their estimate of the scope of the challenge. Here they could get little help from strategic arguments which did not differentiate a series of responses and relate them to challenges of varying scope. While an anticipatory counterattack may be appropriate if an attack were imminent or the West Bank were militarized, concentration of forces or a blockade might require a different kind of response. Just as strategic arguments did not distinguish and link levels of mobilization to different degrees of warning, so they were silent on the relationship between different kinds of challenges and the appropriate form of retaliation.

Of equal consequence was the incomplete examination of the options of the challenger. Because Israel's decisionmakers devoted relatively little attention to the possibility of an Egyptian strategy of controlled provocation, they did not define their problem as the selection of an appropriate response to a piecemeal and gradual challenge. Again, it is impossible to assess whether preemption was the best possible response to deliberate provocation; it might well have been. What is critical is the inadequate exploration of alternative Egyptian strategies and the consequent omission from consideration of a graduated response to a gradual challenge to deterrence. In their discussions, members of the cabinet could draw on no contingent predictions other than the undifferentiated treatment of preemption. Once again, analyses in Cairo and Jerusalem converged: members of Israel's cabinet chose precisely the option that President Nasser provoked and expected.

The successful defense which followed the preemptive attack on 5 June should not obscure the flaws in logic and their consequences for decision-making. Preemption succeeded because President Nasser miscalculated relative capabilities when he chose to provoke a first strike by Israel. But success does not imply rationality on the part of those responsible for the decision. On the contrary, this examination of the logic of the arguments Israel's leaders developed and used demonstrates the constraints imposed by faulty logic on the choices that were made. Organizing concepts were indeed as important as cognitive psychologists assert but not precisely in the way they expect. Problem diagnosis, search, estimation, revision, and evaluation took place within the limits imposed by concepts that were neither complete nor coherent. Leaders showed a surprising capacity to "shift toward rationality" in their estimates of the contingencies and in their evaluation of the options they identified; they could revise their opinions and change their minds. But throughout a good part of the three-week period, they discussed only part of the problem and considered only some of the options and consequences. And in part because they worked with a

flawed concept of deterrence, some members of the cabinet misunderstood its meaning, others simplified it, and still others misused it.[16] It is not surprising that the identification and evaluation of options were sometimes confused and unrelated to the challenge Israel faced. Events intervened—through the action of President Nasser and King Hussein and the inaction of the international maritime states—to reduce the consequences of logically flawed strategic arguments which constrained rationality.

Doctrine, Process, and Choice

This study began by arguing that decisionmakers use complicated and hybrid processes to make a single choice or a series of choices over time. Evidence drawn from this case suggests that more complicated paths to decision may indeed provide a valid reconstruction of the processes leaders use. In 1967, members of Israel's cabinet neither used any one process to make any single decision nor did they follow one path to decision throughout the three-week period. A tracing of their processes showed that Eshkol and his advisers first approached their problem through a combination of cognitive and cybernetic processes. Their emphasis on the routine and programmed consideration of information is consistent with no other reconstruction of a decision-making process. Available programs permitted the prime minister to make a choice quickly and with almost no effort, and only when this first choice proved inadequate did he shift to a more demanding process.

Throughout the rest of the three-week period, leaders used an amalgam of cognitive and analytic procedures to make their choices. In three of the four decisions, the cabinet rather than the prime minister made the choice as members aggregated their preferences through formal voting to select among options. The cognitive component was prominent in their processes; the evidence shows considerable congruence between strategic concepts, problem diagnosis, and identification of options and consequences. Working within these boundaries, some members of the cabinet then approximated analytic procedures more closely than others when they estimated, evaluated, and chose. Although individual cabinet ministers at times simplified and distorted, once the constraints of organizing concepts

16. Eban, for example, consistently misused the concept. He made several references to deterring a blockade which had already been imposed and did not distinguish between national deterrent capacity and international coercive diplomacy to lift the blockade. He argued repeatedly that the blockade was the core of the problem Israel faced and defined freedom of shipping through the Straits as a vital national interest. Simultaneously, however, he spoke of the threat to Israel's deterrent reputation and honor; he saw no difference between intrinsic and strategic interest. And even while he referred to the credibility of deterrence, he actively sought fulfillment of international commitments to freedom of navigation in the Straits. The two were logically contradictory: a strategy of deterrence precluded all options but retaliation while the demand for maritime action precluded precisely that option of retaliation through preemption. Here the flaws were not principally in the logic but in the application.

are accommodated, the evidence of careful processing of information, direct comparison of alternatives, and recognition of difficult trade-offs is most consistent with an analytic explanation of the performance of these decision tasks. Indeed, the evidence cannot be accommodated by any of the alternative paths to decision.

If evidence of partial approximation to analytic processing is strong, evidence of rationality is much weaker. Evaluation of the four decisions suggests a strong relationship between analytic procedures and rational choice but a considerably weaker link to rational revision. The strongest constraints to rationality arose, however, from the absence of an analytic component in the performance of the critical tasks of problem diagnosis and search for options. Evidence of some approximation to analytic procedures, even within the constraints established by organizing concepts, must therefore be encouraging. This is more than is expected by many who observe and bemoan the quality of much of contemporary policy-making. Indeed, it can be argued that more work must be done not only on the poor but also on the good performances, so that the reasons why leaders approximate analytic procedures, when they do, are as well understood as the reasons why they do not. It may be possible to learn as much by examining what decisionmakers do well as by focusing on what they do poorly.[17]

An explanation of this approximation to analytic performance of some of the decision tasks by Israel's leaders can be no more than tentative. Although this one case does include five decisions, evidence from comparative cases would strengthen any explanation of this "shift toward rationality." An examination of the same set of leaders in the same environment but working on a different problem would provide the most useful basis of comparison. Personality, cultural, and environmental factors could then be held constant while the impact of different belief systems, varying perceptions of threat and time, and different group dynamics were assessed. Such a project is now under way.[18] Even without comparable case evidence, however, these factors can be varied through "mental experiments" to permit a preliminary assessment of their impact on process and choice.

The central theoretical linkage of this study is that among doctrine,

17. In an analogous research strategy, psychologists who study early childhood development are now beginning to examine the child who successfully survives hardship and deprivation rather than the child who is traumatized. They suspect that understanding the dynamics of survival may be more helpful to therapists than explanation of the causes of trauma.

18. Three of the four principal decisionmakers—Allon, Eban, and Dayan—were among the five who made the critical decisions in the weeks preceding the October War in 1973. A detailed examination of this decision-making process is now virtually complete, and its results should permit a more valid assessment of the impact of differences in strategic concepts, perceptions of threat and time, and group dynamics within the same cultural and political milieu.

process, and choice. The structure and content of strategic concepts are expected to be important components in an explanation of the processes leaders use and therefore of the choices they make.[19] This linkage receives strong support from this case; evidence drawn from tracing the process suggests that strategic concepts were a necessary and important, if insufficient, component in the explanation of process and choice. First, the evidence that most decision-making activity took place within the boundaries established by these concepts testifies to their strong contribution to explanation. Areas of incompleteness within strategic arguments were reflected in problem diagnosis and definition, in identification of options, in specification of their consequences, and in preliminary evaluation of alternatives. Indeed, there appears to be a relationship between flawed logic and constrained processing of choice.

Strategic doctrine impinged on process and choice not only by what it excluded but also by what it included. Its structure and content may have facilitated the shift from a cognitive-cybernetic path to a process with some analytic component. Through the enumeration of *casus belli*, a series of indicators was established which made discounting of discrepant information more difficult. Although Israel's leaders began by assuming successful deterrence, they had a series of indicators which they could and did use to test and falsify their assumptions. Strategic concepts also contributed to analytic evaluation through their elaboration of multiple consequences. Their emphasis on cost made value considerations more salient and decreased the temptation to avoid value trade-offs.

The impact of strategic concepts on choice was mediated, however, by the process. Only in their first choice did leaders move reflexively from strategic prescription to selection of an option. This first decision could have been anticipated by knowledge of prevailing strategic concepts but, after 16 May, the options leaders chose cannot be explained by referring only to strategic concepts. Doctrine was permissive rather than determining. Indeed, because it included the constraints as well as inducements to action, extrapolation directly from concept to choice was not possible. When process is included as an intervening variable, however, the relationship between doctrine, process, and choice appears robust and worthy of further investigation.

The impact of doctrine on process and choice can be validated further by examining the fit of alternative explanations with the evidence. Other investigations of decision-making suggest that group dynamics may explain the processes that are used and the choices that are made. In reconstructing the three group decisions of 23 May, 28 May, and 4 June,

19. See Chapter 3 and Figure 3.1 for a restatement of the central explanatory argument of the study. The chapter examines competing explanations as well in an effort to strengthen the validity of the explanation of process and choice.

three different explanations of the impact of group membership on collective choice were explored. First, in none of the cabinet decisions was there evidence of concurrence-seeking to promote group solidarity. In this case, moreover, evidence of concurrence-seeking would contradict that of analytic performance of critical decision tasks by members of the cabinet.

A second explanation, coalition-building by leaders within the group, was somewhat more difficult to assess. Coalition politics had considerable indirect impact by changing the composition of the cabinet and the relative influence of members within it. On 4 June, this newly reconstituted cabinet reversed the decision of its predecessor. More directly, Dayan, one of the new ministers, could be considered "essential" to any majority coalition; his opposition to further delay would explain the choice of preemption. Only in this one instance, however, does coalition-building provide a partially satisfactory explanation of the group choice. Even then, it does not adequately explain the changed preferences of the majority of the members of the cabinet. If bargaining can refer only to debate and discussion as techniques of influence, coalition-building does provide a plausible interpretation of the cabinet decision. Such a loose interpretation of bargaining, however, would permit the explanation of any group decision as a "bargain." There is little evidence of modification of strategies or side-payments which rigorous explanations of coalition-building anticipate. In this case, coalition construction does not provide a powerful explanation of the three-group decisions.

A third explanation suggests that exchange of information and participation in argument and discussion explain shifts in collective decisions. Changes in group decision result from reconsideration by members who are exposed to new and persuasive argumentation. This explanation of changes in the preferences of group members is consistent with that provided by analytic explanations of individual choice; indeed, the two explanations are complementary rather than competitive. In this case, evidence of an analytic component in the process of choice would also be consistent with an explanation of persuasive argumentation in a group context. Members of Israel's cabinet worked with a prime minister committed to extensive debate, discussion, and free, wide-ranging, and open expression of opinion. Members listened to new and unfamiliar arguments, heard presentations by "experts," examined new information, at times on an hourly basis, and challenged each other's arguments and estimates.[20] Collective consultation, broad participation, and access to better information improved the quality of estimation and evaluation and encouraged members to reconsider and recalculate. The society of others

20. By accident rather than design, the procedures followed by Israel's cabinet mirrored many of the components of "multiple advocacy," a system of policy management designed to improve the rationality of decisions within a presidential system. See George, 1972.

appeared to make it easier for individual members to approximate analytic procedures. While this explanation of the impact of the group on individual process and choice is the strongest of the three, there is some overlap with analytic explanations of individual choice. And second, it is not nor can it be a sufficient explanation of the decisions the cabinet made; the content of information and argument worked through the processes leaders used to affect the choices they made.

Finally, studies of crisis suggest that stress which results from threat and time pressure affects decisions indirectly through the processes of choice. Evidence from this case suggests no relationship between crisis-induced stress and processes of decision. A low level of threat and no urgency were characteristic of the first routine process of decision. As perceptions of threat and pressure of time increased to moderate levels, leaders did switch to cognitive-analytic processes, but even when the crisis became intense, they continued to use the same processes of decision. This weakness of crisis-induced stress as an explanation is somewhat surprising. While there is considerable controversy about the impact of different levels of stress on performance, leaders working under high stress are not expected to approach analytic procedures in any of the five decision tasks. Yet Israel's leaders did approximate analytic performance of some of the tasks, even after the crisis became severe on 30 May. Several interpretations of the weak explanatory power of crisis-induced stress in 1967 are plausible.

First, intense perception of threat and time pressure may have had so little impact because of the context in which choices were made. In particular, group norms of extended debate and discussion within the cabinet may have curbed the tendency to engage in rapid closure and simplification. Closely related is the cumulative impact of shared experience; members of the cabinet may have developed confidence in their colleagues as they became experienced in making difficult decisions. The earlier decisions, those that were made when perceptions of crisis were less intense, may have provided a reference point when pressure increased. Once options had been identified, consequences itemized, and conflicts recognized, the problem for decision became more manageable and easier to work with. Because surprise did not co-vary with perceptions of crisis, the stress that comes from the uncertainty and complexity of difficult problems as well as crisis-induced stress may have been less than usual. And third, strategic concepts may have contributed, directly and indirectly, to reducing stress and its consequences. By facilitating "early" diagnosis of a problem, strategic concepts diminished the co-variance of surprise with crisis and consequently the severity of stress. More directly, insofar as strategic arguments helped in the identification of options and their consequences, the stress of uncertainty and complexity in crisis was less. While each of these factors separately may explain the weak impact of

crisis-induced stress, it is more likely that the interaction of contextual factors with affective and cognitive variables—group norms, experience when pressure was less rather than surprise when pressure was intense, and strategic arguments—together reduced stress or its impact on processes of choice. Until further evidence becomes available from other cases of national security decision-making, the contribution of each of these factors alone or together cannot be determined with precision. And, of course, it is possible that crisis-induced stress is not an important component in an explanation of process and choice.

This review of complementary and competing explanations of process and choice in 1967 suggests considerable difference in their relative strength and importance. The central theoretical relationship among doctrine, process, and choice was strong, and strategic arguments were a necessary if not sufficient component in the explanation of the options Israel's leaders chose. While the procedures and content of group discussion were also important in explaining changes in preferences, inclusion of this factor as a necessary component in an explanation is somewhat problematic because of the strong overlap with process explanations of individual choice. In contrast, crisis-induced stress, concurrence-seeking within a group, and coalition-building, the major alternative explanations, were of little relevance to this case and can be eliminated. Finally, individual decision-making processes were a necessary intervening variable in an explanation of these decisions. Neither strategic concepts nor the procedures and content of group discussion were sufficient to explain the choices Israel's leaders made. A tracing of the process in 1967, as well as an examination of the congruence of other complementary and competitive factors with the evidence, suggests a strong relationship between strategic concepts and information exchange and debate within the group, through the process, to the choices members made. Doctrine and discussion, mediated by process, explain both rationality and its constraints in decision.

If process is a critical component of choice, then the current debate about the merits of analytic decision-making is particularly important. Strategies of comprehensive decision-making have been the object of considerable criticism, but the criticism is not directed only at its obvious failures. It is not the relatively weak link, for example, between analytic procedures of information-processing and optimal revision that is the primary focus of concern. On the contrary, critics suggest that an analytic process may be positively harmful.

Disappointed by the record of past performance and skeptical of future improvement, scholars point to the strong evidence of constrained rationality among decisionmakers. These constraints to rationality are of particular concern in national security decision-making. Given the diffusion of sophisticated technology, disaster avoidance is of the essence if

the international system is to survive. Reliance on leaders whose rationality is constrained to manage dangerous technology and complicated problems requires a leap of faith unjustified by the evidence; indeed, constrained rationality precludes a comprehensive decision strategy. Especially in national security policy, the priority must be the avoidance of error.

The alternative to comprehensive decision-making is a strategy of sensible satisficing or incrementalism (Morgan, 1977:101-125). As a criticism of analytic procedures, satisficing at times becomes an umbrella term with a number of distinct if related meanings. When rigorously defined by the cybernetic explanation, it refers to the choice of the first satisfactory option. Generally, this is not a recommended strategy, but some of its proponents do argue that satisficing is easier for those who use it (Thompson, 1971). It is "efficient" because the expenditure of resources is much less. It requires less effort and removes the burden of enormous responsibility which the attempt to be comprehensive imposes. A constrained capacity for rationality dictates satisficing as a rational strategy.

More often, satisficing or incrementalism refers to the choice of modest rather than ambitious objectives. Limited objectives are well-suited to the complexities of the contemporary international strategic environment and to a limited capacity to understand these complexities. When errors occur, they are less likely to be disastrous if objectives are modest; excesses are bred by the urge to control rather than to manage. If the priority is disaster avoidance, limited objectives are appropriate in a dangerous environment.

A third interpretation of sensible incrementalism suggests modesty not in the scope but in the approach to objectives. Modesty in approach may not only avoid serious error, it may also improve the quality of international political life. When an objective is approached incrementally through a series of small steps, accommodation and cooperation become less risky and therefore more likely. If goals are approached by degree, cooperation is less dangerous for those who try it. If the worst occurs and an adversary betrays, the loss is manageable if not small at early stages of the process. Because the risk is less and the loss is small, cooperation becomes more likely if it is pursued incrementally (Schelling, 1960:134-135 and Jervis, 1978:181).[21] A slow and gradual pace also reduces the consequences of error since policymakers can benefit from feedback to correct mistakes. Of course, incrementalism can be chosen carefully, after comprehensive consideration of the alternatives.[22] It is, however, a defining

21. Schelling and Jervis discuss the propensity of a series of small transactions to reduce conflict and promote cooperation. Cooperation is easier not only because risk is less when steps are gradual, but also because the benefit of cheating is less if progress has been incremental and limited.

22. Kissinger's application of step-by-step diplomacy to the reduction of conflict between Egypt and Israel probably is better explained by comprehensive consideration of alternative approaches than by a routine search for the first acceptable strategy.

characteristic of a sensible satisficer; the preferred policy fits easily with the decision-making strategy.

Fourth, critics of "the best and the brightest" extend modesty beyond scope and approach to objectives to include the confidence with which a leader chooses. A modest assessment of the reliability and validity of estimates is appropriate given the pervasive uncertainties of the international strategic environment; indeed, a healthy respect for uncertainty is the distinguishing characteristic of a sensible decisionmaker (Morgan, 1977:120). Skepticism prevents overconfidence in spurious estimates and avoids the fallacy of misplaced concreteness which is so often characteristic of an analytic decisionmaker. A sober assessment of human capacity is a better approach to a dangerous, capricious, and intractable environment.

Those who are more hopeful about human capacity to be rational defend a comprehensive decision strategy with empirical and normative argument. First, the criterion of efficiency as ease is dismissed out of hand as logically inconsistent and ethically unacceptable. A claim that satisficing is efficient logically implies some criterion of optimizing; the optimal point is determined not by the decisionmaker, however, who never sees the total picture, but by the policy analyst who observes the uncertainties and complexities and applauds the reduction of effort made possible by the selection of the first satisfactory alternative. That choice is easier and less expensive in time and effort is not an adequate ethical basis for recommending a satisficing strategy.

The thesis that modesty in scope and approach to objectives is characteristic only of sensible satisficing is also open to question. Limited objectives and incremental progress promise prudence and an opportunity for feedback and correction. But caution also may result from analytic processes. In 1967, for example, Israel's leaders found it rational to be prudent: when uncertainty was highest and complexity greatest, between 23 and 28 May, they chose not to use force but to delay. They were prudent not through incrementalism but through analytic examination of the cost, benefit, and likelihood of the consequences of alternative solutions to a difficult and dangerous problem. And if prudence is not characteristic of incremental processes only, incrementalism may also produce imprudent decisions. A process that excludes longer-range consequences and a comprehensive overview to concentrate on immediate effects may create unintended commitments that overextend rather than limit expenditure of resources. Some historians of American policy in Vietnam, for example, contend that, because policymakers proceeded incrementally through a series of small decisions, they never considered or understood the broader consequences of the choices they made and the result was quagmire (Schlesinger, 1968:47).[23] Through a series of marginal steps, errors are

23. Policy analysts, no less than policymakers, frequently find what they are looking for

compounded rather than corrected, and in a chain of decisions one poor judgment contaminates all the others. When leaders miss the forest for the trees, disaster is not less likely but simply less dramatic.

The argument that feedback in an incremental process reduces error is no more convincing. On the contrary, cumulative error is particularly likely if leaders use incremental strategies to manage international problems. Such a strategy is successful only in a decentralized, pluralistic environment where sustained feedback permits self-correction and adjustment. Decision-making on issues of national security is usually centralized, hierarchical, and secret. Far from being appropriate to the complexity of security problems, a satisficing strategy is unsuited to the political and organizational context of national security decision-making even in the most open societies. Its requirements generally are violated by the organization of national security decision-making.

If disaster-avoidance and reduced error are neither necessary nor likely outcomes of incremental processes, the case for sensible incrementalism rests ultimately on two grounds: the need for modesty and humility on the part of those responsible for decision and a fundamental skepticism of human capacity for rationality. Modesty and humility are sensible attributes in an uncertain and complex world. But they are not necessarily restricted to incrementalists. A distinguishing characteristic of analytic decisionmakers is their recognition of the uncertainties in their environment, their rejection of categorical estimates, and their acknowledgment of the difficulty of the choices they face. Though misplaced concreteness may create false certainty, great confidence in judgment and choice is neither expected nor characteristic of analytic decisionmakers. If modesty and humility are the issue, a stronger case can be made for sensible and modest optimizing than for sensible incrementalism.

It is emphasis on constrained rationality which fuels the opposition to analytic decision strategies. At least three issues are relevant here. First, available evidence suggests variable performance by decisionmakers; while Cartesians cannot ignore the findings of cognitive psychologists, skeptics cannot dismiss the evidence of rationality on the part of some

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when they read history. Those who urge a strategy of sensible satisficing point to systems analysis and programmed and planned budgeting within the Pentagon as the source of the disaster in Vietnam (Halberstam, 1969). Leaders fell victims to the fallacy of misplaced concreteness and their overwhelming desire to control rather than to manage: Vietnam becomes the sin of pride and precision. Those who defend a comprehensive strategy argue that, precisely because decision-making was incremental, leaders arrived at a monumental disaster without ever stopping to consider what they were doing and why. More, not less, analysis would have avoided the imperceptible commitment that grew out of control. Ellsberg (1971) and Gelb (1971) dispute the interpretation that decision-making was incremental and argue rather that each president quite carefully considered the costs and consequences of his options but chose to achieve stalemate and avoid loss rather than achieve gain. It was not the decision process, they argue, but the decision rule that produced catastrophe. The lessons of history, it appears, are far from obvious.

decisionmakers some of the time under some circumstances. Although the neurological and psychological obstacles to rational decision-making are considerable, they are not determining.[24] That rationality is constrained is established, but it is debatable whether the emphasis is better placed on the constraints or on the rationality.

Second, for those who share the perspective of the phenomenologist, the arguments of leaders themselves cannot be irrelevant to this debate. Generally activist by nature, those responsible for decisions and their consequences do not share the pessimism of some of those who watch. They expect that they can and must choose the best possible rather than the first adequate option. To manage international and national security problems, they usually emphasize the rationality rather than the constraints in decision. If leaders considered themselves or their counterparts to be severely constrained, an attempt to persuade, bargain, or negotiate would be wasteful if not dangerous. Yet leaders routinely bargain and persuade across a wide variety of strategic issues as they do in many other policy environments. When they choose such classic techniques as threats and promises to manage conflict with their adversaries, decisionmakers seek to alter estimates of probability and value of future events. If leaders considered their counterparts to be incapable of logical thinking, rational judgment, and efficient choice, then all such activity would be an exercise in futility.

To impose order on their complex and uncertain environment, leaders attribute rationality both to themselves and to their adversaries. They build in contingency plans for error, miscalculation, even irrationality, but their pessimism is constrained by the reality principle.[25] They want to be and consider that they are rational in argument, process, and choice. The alternative to an assumption of rationality is paralysis, and those charged with responsibility tend to consider paralysis irrational. They see little alternative to rationality.

Finally, if leaders see few practical alternatives to rationality as a basis for choice, scholars find few acceptable alternatives to rationality as a

24. While cognitive psychologists emphasize the sub-optimal performance of complicated tasks of judgment by "human computers," neurophysiologists argue that understanding of the brain and its functions has been vastly oversimplified. Analogies to a computer are misleadingly simple; the brain is infinitely more complicated than any man-made machine, and its operations are so sophisticated that any technological metaphor is inappropriate.

25. Because military planners are skeptical of their adversary's capacity to be rational, they hedge and design contingency plans for the irrational. One consequence of such skepticism is stockpiled nuclear and conventional weapons to reduce uncertainty for both parties. A heavy emphasis on constrained rationality in the international strategic environment leads to insurance through overkill, an overkill which is never quite sufficient to reduce the likelihood of error by a limited adversary. The practical consequences of an assumption of a limited capacity for rationality are as dangerous as the consequences of policies which tax and extend the limits of human capacity (cf. Steinbruner, 1976).

standard of evaluation. This is particularly so on issues of national security where the consequences of constrained rationality may be beyond the capacity of a civilized society to absorb or comprehend. If leaders cannot be rational, they cannot be held responsible. In its extreme form, acceptance of arationality must preclude judgments of responsibility in the face of history. In this reductionist argument, if what leaders choose is determined rather than decided, they are excused from errors of omission and commission on their path to choice. Only if some norm of rationality informs the analysis of decision can leaders be held accountable for their choices. To judge decisionmakers irresponsible, they must be free to be rational.

If an analytic decision strategy is preferred for ethical reasons, the concept of rationality must extend beyond proficiency if it is to be useful as a normative standard. Technical proficiency within the framework of poorly conceived or poorly articulated concepts and arguments will not provide the quality of decision which both participants and observers seek. In 1967, for example, the principal constraints to rationality were rooted not in an inability to perform complicated calculations but rather in the inadequate logic of the arguments which structured the process of choice. The logic was flawed in critically important areas: incomplete valuation of interests and their interrelationships; inadequate delimitation of the scope of deterrence; and only partial examination of relationships between warning and response and challenge and defense. Flawed logic constrained the choices Israel's leaders made, and an evaluation of their decisions cannot be divorced either from the substance of the issues they confronted or from the arguments that organized their discussion. All decisionmakers begin a process of choice with a set of beliefs or concepts, and the crucial question is what kind and of what quality. Leaders, moreover, are rarely original in the concepts they use; in almost all policy arenas, they generally draw from an available body of analysis and argument. If the evaluation of decisions and the processes used to make them is not to be ahistorical, the substance of these arguments must be read back into the evaluation of process and choice.

The current generation of leaders, when faced with decisions about national security, especially when the use of force is possible, continue to draw on the concept of deterrence. The continuing relevance of the concept raises three quite distinct issues among those who evaluate its use: poor quality in the development and application of the concept in any particular case; inherent obstacles to logic which may be built into the concept of deterrence; and the consequences which flow from the logic of a deterrence argument when it is well-developed and consistently applied.

The first issue seems to be the most easily dealt with. If a concept was flawed in its development or its application—as it was in both in 1967—the flaws may have been specific to one group of leaders and, consequently,

remediable—either by changing the leaders or improving the argument. Remediation may not be possible, however, if deterrence is weak in theory as well as in practice. Here, a number of considerations are relevant.

First, a complete and coherent concept may not be possible given the multiplicity of possible contingencies, the variety of options generally available to challenge, and the differentiated capabilities at the conventional level; the requirements of a logical argument of deterrence may simply be too demanding.[26] Second, in part because the logic of deterrence is so heavily dependent on context, appropriate strategies for success generally cannot be detailed independently of the issues and the parties. Even then, it is difficult to specify whether ambiguous or precise commitments promote credibility or whether narrowly or broadly delimited strategies provoke challenge. Both flexibility and commitment offer advantages, and the particular context is an important determinant of the appropriateness of different responses.[27] Because deterrence is underdetermined as an argument and offers few contingent hypotheses and conditional predictions, it is frail as a policy guideline; it says too little.

The weakness in argument is particularly serious given the demanding conditions for the success of deterrence and the severe consequences of failure. If the concept of deterrence says too little, the strategy may require too much. If deterrence is to succeed, at the very least a rational adversary must consider a commitment credible and the costs and risks of a challenge incalculable and uncontrollable.[28] Even then, certainty about substantive interests may dominate uncertainty about the consequences of action.[29]

26. George and Smoke (1974:54) question whether a logical concept of deterrence at the conventional level is possible. Given the large scope of contingent possibilities, a single concept may be unable to meet minimal criteria of completeness and coherence.

27. George and Smoke (1974:65) examine the consequences of broad and narrow delimitation of deterrence strategies. While a stringent delimitation of the scope of deterrence reduces linkage among interests, it may promote challenge by encouraging an adversary to "design around" the narrow commitment. George and Smoke (1974:550-567), Snyder and Diesing (1977:214, 243), Morgan, 1977, and Lockhart, 1978 discuss the advantages and disadvantages of flexibility and commitment under different circumstances. In particular, Snyder and Diesing find in their investigation of crisis-bargaining that decisionmakers generally choose to preserve their options by retaining ambiguity in their verbal declarations. Crisis bargainers were at least as concerned with avoiding escalation through mutual commitments, keeping their options open, and minimizing risks as they were with maximizing coercive gains. Paradoxically, even while decisionmakers tend to resolve uncertainty through conservative arguments of deterrent credibility, they resolve complexity by trying to reduce costs rather than maximize gains. Since an emphasis on deterrent credibility inflates cost, the two strategies are not fully consistent.

28. George and Smoke (1974:526-527) examine the necessary and sufficient conditions of deterrence success in a number of cases and find these to be the two major conditions. There are a series of minor conditions—the challenger's perceptions of the defender's military capability, the challenger's perception of the defender's motivation, the challenger's perception that only force can effect change, and the challenger's willingness to accept compensation elsewhere—which are neither necessary nor sufficient.

29. Snyder and Diesing (1977:502-503) make this argument about a defender, but the argument can be extended to the challenger as well. They suggest that, while the certainty of interests may be calculated, the uncertain consequences of action are not calculated or controlled but gambled.

Should a challenger consider that present injury outweighs anticipated cost, or calculate cost on a basis not understood by the defender, or simply miscalculate, deterrence is likely to fail.

Yet trying and failing to deter is worse than not trying at all. Once an adversary chooses to challenge, a defender who has tried to deter exercises less freedom in choosing an appropriate response; choice is constrained by the original commitment. Even if a challenge is partial rather than general, as it was in 1967, fully rational leaders find a non-violent option at best costly and at worst prohibitive when they consider alternative responses. If commitments are interdependent—and they are often difficult to separate in an ongoing relationship—even a partial challenge becomes generalized, and options that exclude the use of force are devalued. Because leaders have attempted to prevent the unwanted through a threat of force, a resort to force becomes the obvious choice when their attempt fails. Or so the logic of deterrence dictates. It is when the argument is logical that the cost of alternatives to force in response to challenge is inflated. The limits to rational choice lie not only in the constrained processes of decisionmakers but also in the logic of the arguments they use. When the experiment is very expensive, heavy reliance on a strategy of conflict management which is overdemanding and underspecified appears foolhardy at worst and problematic at best.

Finally, deterrence is not a strategy of conflict reduction. At best, it is a mangement technique. It does not address the fundamental incompatibilities between the parties which fuel a conflict relationship, and it contains rather than confronts grievances which motivate challengers to risk the use of force. The underlying premise of deterrence is one of continuing hostility in an adversarial relationship which requires containment rather than compromise and responds to the threat of punishment rather than the promise of reward. Insofar as deterrence discourages experimentation with strategies of conflict reduction, its logic is at least partly self-fulfilling and, insofar as it diverts attention from the issues at stake, deterrence is even more expensive than a cost-benefit analysis would suggest. Once the logic of deterrence is understood, its opportunity costs must be included in any assessment of its appropriateness as a strategy of conflict management.

If deterrence is weak in theory, it is even poorer in practice in the Middle East. In 1967, deterrence failed not because President Nasser misread signals or found commitments incredible, but because he miscalculated relative capabilities. Prime Minister Eshkol and his colleagues chose and used force in large part to restore the credibility of deterrence, but the sense of injury which flowed from that use of force made deterrence more difficult and more expensive after 1967 than it had been before. By 1973, when the alleged asymmetry in relative capabilities was even greater than it had been

in 1967 and Israel's intention to retaliate if attacked no less clear, President Sadat carefully calculated the advantages and disadvantages of a challenge and deliberately chose to do so. This dismal record of deterrence as a strategy of conflict management should make it highly suspect to Israel's policymakers. Especially as Israel enters a new and unprecedented relationship with its most important neighbor, the premises and consequences of a strategy of deterrence—even a strategy based on an inclusive and coherent concept—must be reconsidered and reassessed.

First, Israel's leaders must examine the appropriateness of deterrence as a strategy of conflict management in a changed relationship with Egypt. Deterrence presumes permanent hostility and aggressive intent and designs strategy and tactics accordingly; this basic premise needs reexamination.[30] Although important incompatibilities remain between Egypt and Israel, a peace treaty has been signed, relationships have been normalized, and there is now significant compatibility as well as incompatibility of interest between the two. Particularly important is the increasingly salient goal of war-avoidance in an era of unsurpassed destructive capability even if technology is conventional rather than nuclear. When avoiding the use of force is a constraint for both parties, it becomes a shared goal.[31] Although the appropriate mix of accommodation and coercion is a central dilemma in international political life, an emphasis on common as well as competitive interests and use of inducement rather than threat is more likely to reduce rather than simply manage a conflict.[32] Deterrence must become one among a panoply of techniques rather than a principal component of a concept of national security, and security must include not only the deterrence of challenge but the reduction of grievance.

Second, even if deterrence is reduced to one of many rather than the major strategy of conflict management, its scope must be delimited. If Israel's leaders are to construct viable security arrangements, not only with Egypt but with other parties to the conflict, they must distinguish the essential from the desirable and decide what is critical to deter. Before once again making commitments which constrain, they must examine the cost of failing to fulfill these commitments. Before leaders draw "red lines" which must not be crossed, the value of the interests which underlie such *casus belli* must be assessed and reassessed. Are these interests enduring, or do they respond to a particular environment at a specific moment in time? Are

30. In an examination of the arguments of spiral and deterrence as competitive explanations of conflict escalation and prescriptions for conflict management, Jervis (1976:58-113) underlines the critical role of the estimate of an adversary's intentions.

31. Snyder and Diesing (1977:280) find that, even during a crisis, decisionmakers pay more attention to avoiding war than to the benefits the use of force may provide.

32. George, Hall, and Simons (1971), George and Smoke (1974:588-613), and Snyder and Diesing (1977:207-281) examine the difficulties of designing the appropriate mix of inducement and threat. In a related investigation, Jervis (1978) details the rigorous conditions which are necessary for inducement to succeed.

commitments likely to ossify while underlying interests evolve and change? How can commitments be made flexible enough so that they reflect rather than determine the issues at stake? And even if agreed-upon commitments do reflect stable and intrinsic interests, when, where, and how much constitutes an unacceptable challenge? Is it an infraction of numbers of forces permitted in a demilitarized zone? Is it the forward movement of a new system of "defensive" equipment? Is it the purchase and deployment of sophisticated offensive weaponry? How much and how many threaten deterrence? When? Are a series of small steps as challenging as a single major initiative? Only through contingent analysis are leaders likely to delimit deterrence and reduce the consequences of its logic. Finally, leaders must decide which actions cannot be deterred at all. They must consider not only where deterrence is appropriate but, far more important, where it is inappropriate.

If conflict is to be reduced rather than managed, the constraining logic of deterrence must be fully understood and appreciated. The case for a comprehensive decision strategy rests in no small part on a comprehensive concept of rationality, and rationality encompasses not only the efficiency of choice or the quality of judgment, but also the logic of argument. Contrary to the dominant interpretation, evidence drawn from this examination of decision-making on deterrence and defense in 1967 suggests a number of flaws in the logic of argument. The evidence also shows that members of the cabinet did learn; they did change their minds. Although the lessons of history are neither simple nor obvious, a sober look at the repeated failure of deterrence may induce Israel's leaders to seek other strategies to structure security and reduce conflict. If leaders do learn principally from failure, the logic of deterrence may be less seductive.

Appendix: Steps for Performing Decision Analysis

1) Examine process of decision making to discover if it is sufficiently rational (analytic) to justify applying decision analysis. Unless choosers generate verbal or numerical cost, benefit, and likelihood estimates, it is not possible to use decision analysis in an *ex post facto* manner.
2) Determine if decision process is mainly interdependent or independent. An interdependent process involves at least two choosers and is a process where one side's "best choice" is calculated based on its expectation of the other side's choice. Each side needs to have knowledge of the utilities or values of each other. An independent process generally involves only one actor, who seeks to maximize its own expected value without taking into account the value of another party.
3) For a single actor, structure perceived options as mutually exclusive action forks on a decision tree; action forks are alternatives under the control of the chooser, i.e., that which is being decided may be considered as actions to be taken.
4) Specify consequences of alternatives as mutually exclusive, logically exhaustive event forks on the tree; event forks are consequences of options—branches on the tree not under control of the chooser.
5) Estimate likelihood of occurrence for each event fork. Code verbal statements (about what may occur as a result of one option's being selected) into numerical estimates. The Sherman Kent Scale is one tool for translating words into probabilities.
6) Determine expected outcomes—combinations of forks—for each option. Outcomes are logical derivatives of options and consequences; hence, it is possible to deduce all outcomes, given assumptions about expected consequences as stated by decision-makers.
7) Discover dimensions of value underlying each consequence, and determine relative weight among dimensions, e.g., via interviews and content analysis of documents, speeches, etc.

8) Find a dimension of value with a well-defined scale, e.g., money, casualties, barrels of oil, etc., and determine the benefits and costs for each outcome along this dimension.

9) For dimensions with an unknown scale, here is one procedure to develop a metric for combination with probabilities via multiplication:
   a) Rank outcomes on the dimension from least preferred at bottom to most preferred at top.
   b) Estimate relative distances between pairs of overlapping or adjoining pairs of distances.
   c) Set some pair of outcomes equal to X, translate all other relative distances between pairs of outcomes in terms of proportions of X, then solve for X.
   d) Set the most preferred outcome equal to 100 and the least preferred to zero on a utility scale.
   e) Derive the utility of each outcome between 100 and zero by subtracting X and proportions of X from 100 and then from correspondingly smaller points on the scale.
   f) Summarize utility estimates for each outcome on scale from 100 to zero.
   g) Set the neutral or status quo outcome equal to a new zero value, e.g., the outcome to which the decision maker is relatively indifferent.
   h) Estimate distance between each outcome by subtracting each utility from the adjoining one, under the constraint that the neutral outcome is now zero; thus, there are positive values above the neutral outcome and negative values below the zero valued outcome.
   i) Estimate relative importance of each dimension to obtain a weighting factor; for example, if a military security dimension is three times as important as an economic scale, simply multiply the utility of each outcome by three, to derive the "equivalent dollar value" for each outcome on the military security scale.
   j) Create a table showing all dimensions of value relevant to a particular choice.

10) Sum each outcome across all the dimensions to create multi-dimensional value; in the situations where an outcome is positive on one dimension and negative on another, this step is equivalent to subtracting costs from benefits to obtain multi-dimensional value. In other words, (benefit - cost) = value.

11) Place the sum for each outcome in the circle for that particular outcome on the right hand portion of the tree.

12) Multiply the likelihood of an event fork times the value of the outcome, and add the result to the product of likelihood times value for the other outcome(s) on that particular node, to calculate "expected value."

13) Repeat the process of calculating expected value for each remaining empty circle in the tree, moving from right to left, until the circle representing the options themselves is reached.

14) Compare the expected values for each option; if all numbers are negative, select the option with the smallest expected value; if the numbers are all positive, select the option with the largest expected value; if the numbers are both negative and positive, select the option with the largest positive expected value. These options selected would be the rational or "expected-value maximizing" choices.

15) To conduct sensitivity analysis on value dimensions, re-calculate expected values under different weightings of the dimensions, or by excluding some dimensions and retaining others.

16) Determine if choice is sensitive to information via graphic or algebraic methods. A graphic procedure involves the following two steps. First, plot the expected value of two options, assuming zero probability and certainty of consequences for which choice may be sensitive. Second, ascertain if the two lines for the options intersect. The point at which the lines cross indicates a threshold probability, i.e., where choice should change from one option to another in order to minimize expected loss or maximize expected gain. An algebraic procedure may be illustrated by the following formula.

$$\text{Set } EV_1 = EV_2$$

$$P(A) + (1 - P) = P(C) + (1 - P)D$$

$$P(A) + B - P(B) = P(C) + D - P(D)$$

$$P(A) - P(B) - P(C) + P(D) = (D - B)$$

$$P(A)(\cdot B \quad C + D) = (D \cdot B)$$

$$P = \frac{D - B}{A - B - C + D}, \text{ the threshold probability}$$

The graphic and algebraic methods should yield approximately the same results.

17) Conduct Bayesian analysis to revise opinions about probabilities, especially if choice is sensitive to information.

18) Conduct Bayesian Analysis:

a) Determine if Bayes is applicable to the predecision process.

1) Is there a need to update prior opinion in light of new information?

2) Are there alternative hypotheses for which new information is relevant?

3) Is there documentary evidence from which to derive quantitative estimates of the impact of a new datum on hypothesis validity?

b) Given the need to update prior opinion, three ratios should be created:

1) Ratio of Prior Likelihoods (PL)

2) Likelihood Ratio (LR)

3) Ratio of Posterior Probabilities (PP)

c) Assess Prior Likelihoods (PL) of alternative hypotheses (e.g., H_1 and H_2 as mutually exclusive likelihoods of some event occurring).

1) Convert documentary evidence for each hypothesis into numerical estimates using Sherman Kent Scale or some other means for translating words into numerical estimates.

2) Create ratio of Prior Likelihoods: $\frac{P(H_1)}{P(H_2)}$

d) Create Likelihood Ratio (LR):

Likelihood of observing new datum (D) if first hypothesis (H_1) is true, to probability of observing that same datum (D) if second hypothesis (H_2) is true.

$$\frac{P(D/H_1)}{P(D/H_2)}$$

e) Determine Posterior Probabilities (PP):

1) Multiply (LR) × (PL).

2) Multiply numerators of (LR) and (PL), then multiply denominators of (LR) and (PL).*

3) $$\underset{(PP)}{\frac{P(H_1/D)}{P(H_2/D)}} = \underset{(LR)}{\frac{P(D/H_1)}{P(D/H_2)}} \times \underset{(PL)}{\frac{P(H_1)}{P(H_2)}}$$

* Do *not* divide ratios before multiplication.

f) Normalize Posterior Probability Ratio

1) Sum numerator and denominator of (PP).

2) Divide numerator by sum of numerator and denominator (new H_1).

3) Subtract dividend (new H_1) from 1.0 to obtain new H_2.

g) Compare (PP) to (PL) to assess impact of information on Hypothesis. For example, calculate relative change and absolute difference.

h) Since probabilities have a ceiling of 100%, one may wish to convert likelihoods to odds, which do not have a ceiling *per se*.

To convert probabilities to odds,

1) Let $P(H_1) = .375$; thus $P(H_2) = 1 - P(H_1) = .625$.

2) Convert .375 to odds; then convert .625 to odds.

3) Create ratio of Prior Likelihoods

$$\frac{P(H_1)}{P(H_2)} = \frac{.375}{.625}$$

4) Sum numerator and denominator to get new denominator (1.0), with prior numerator (.375).

$$\frac{.375}{1.000}$$

5) Reduce ratio by dividing numerator and denominator by Least Common Denominator (e.g., 125)

$$\frac{.375}{1.000} = \frac{3}{8}, \text{ the odds of } P(H_1) \text{ or } .375$$

6) Repeat steps 4 and 5 for $P(H_2) = .625$, i.e.,

$$\frac{.625}{1.000} = \frac{5}{8}$$

7) Note that odds of $P(H_1)$ plus odds for $P(H_2)$ equal unity:

Thus

8) If odds $P(H_1)$ = odds $P(H_2)$ as If $P(H_1) = P(H_2)$

9) Finally, to obtain odds $\frac{P(H_1)}{P(H_2)}$, divide odds $P(H_1)$ by odds $P(H_2)$

$$\frac{\text{odds } P(H_1)}{\text{odds } P(H_2)} \frac{\frac{3}{8}}{\frac{5}{8}} = \frac{3}{8} \times \frac{8}{5} = \frac{3}{5} \text{ or } 3:5$$

10) In short, the original probabilities of .375 and .625 convert to 3:5 odds, to be read "three to five odds," or "three chances in eight."

i) Odds are difficult to work with in sensitivity analysis and in estimating the impact of information on choice; hence one may wish to convert odds to probabilities, which are easier to manipulate. Here are two methods:

*Method 1***

Odds $\frac{a}{b}$ Probability $= \frac{\text{odds}}{\text{odds} + 1}$ or $\frac{\frac{a}{b}}{\frac{a}{b} + 1}$

Example:

Odds $= \frac{3}{5}$ probability $\neq .60$

$$\text{Probability} = \frac{\frac{3}{5}}{\frac{3}{5} + 1} = \frac{\frac{3}{5}}{\frac{8}{5}} = \frac{3}{5} \quad \frac{5}{8} = .375$$

*Method 2***

Odds $\frac{a}{b}$ $\quad \text{Probability} = \frac{a}{a + b}$

Example:

Odds $= \frac{3}{5}$ $\quad$ Probability $\neq .60$

$$\text{Probability} = \frac{3}{3 + 5} = \frac{3}{8} = .375$$

j) Since any Likelihood Ratio (LR) results in more movement of the odds when the prior odds are high, Bayes Theorem can be written in logarithmic form. Logs give greater weight to lower odds and probabilities than to higher ones.

$$\log \frac{P(H_1/D)}{P(H_2/D)} = \log \frac{P(D/H_1)}{P(D/H_2)} + \log \frac{P(H_1)}{P(H_2)}$$

Note that the logarithmic expression of Bayes sums rather than multiplies.

For further information on probabilities and odds see De Francesco (1975).

** Note: Both methods are used to find the probability of an event occurring (p(a)). To find the probability of an event not occurring use the following: $1 - p(a) = p(b)$.

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Index

Pages in bold-face indicate material in tables and figures

(Continued from front flap)

explain and assess the quality of Israeli policy-making that led to the decision to launch a preemptive war against the Arab states in 1967. The result is a masterful study of the complex relationship among the Israeli doctrine of deterrence, the process of Israeli decisionmaking, and the choices made by Israeli leaders in responding to the series of actions taken by Egypt. A wholly convincing and admirable study."—ALEXANDER L. GEORGE, Graham H. Stuart Professor of International Relations at Stanford University.

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Designed by Harold M. Stevens